City & Guilds

A PRACTICAL GUIDE TO CRAFTSMANSHIP

CREATING THE CRAFTSMEN AND WOMEN THAT BRITAIN NEEDS

BILL LUCAS AND ELLEN SPENCER

Centre for Real-World Learning
at the University of Winchester

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- the science of learnable intelligence, the implementation of expansive approaches to learning and the coordination of the Expansive Education Network of educators;
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Learning to be Employable: practical lessons from research into developing character (2016). London: City & Guilds

Remaking Apprenticeships: powerful learning for work and life (2015). London: City & Guilds

Thinking like an Engineer: implications for the education system (2014). London: Royal Academy of Engineering

Expansive Education: teaching learners for the real world (2013). Melbourne: Australian Council for Educational Research

Teaching Vocational Education: a theory of vocational pedagogy (2012). London: City & Guilds

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Foreword

The words 'craftsman' or 'craftsmanship' often come with a lot of pre-conceived ideas. Leaving behind the argument about whether it should indeed be limited to 'man' or take the more inclusive 'person' (which is well explored in this research), it conjures up images of trades that are perhaps more manual and traditional in their nature.

Indeed I think many people would question the relevance of the word in today's modern workplace where lots of jobs are office or computer-based and feel far removed from the idea of craft. However, this I believe misses the essence of what is meant by craftsmanship, or being a master of your craft.

In this important research, Professor Bill Lucas and Dr Ellen Spencer from the Centre for Real-World Learning have sought to revitalise the idea of craftsmanship by discussing how its qualities and attributes can be taught. Contrary to popular belief, the research asserts that people are not born demonstrating excellence in a particular area. What craftsmen have developed instead is a mindset and a set of qualities that enable them to improve their skills and become expert through practice and focus.

This research, commissioned by City & Guilds, takes a traditional concept, craft, and gives it relevance to contemporary education and work. Rather than looking at craftsmanship in its traditional sense, the researchers have focused on the concept of developing a 'craftsmanlike attitude' and identified three strands of thinking around the concept of craftsmanship: it's learnable; it's about 'becoming'; it's about the culture.

The researchers have interviewed tutors and employers from different industries to show that a business administrator has as much right to apply the label of craftsman to themselves and their work as a jewellery maker. The idea that craftsmanship is teachable is also an important concept for the education community and it's clear from this research that FE, with its close links to industry and focus on contextualised learning, is well placed to deliver this teaching.

In highlighting the importance of craftsmanship, the research demonstrates the link between developing a craftsmanlike attitude and increasing employee engagement and commitment to a job well done. In a country where productivity levels are so low and skills gaps are being reported across many different industries, this feels like a vital thing to do.

Kirstie Donnelly MBE – MD, City & Guilds UK

SETTING THE SCENE

For many, craftsmanship is in decline. In 2011 Christopher Frayling offered a persuasive list of reasons why craftsmanship has fallen out of favour today:

> *Craftsmanship is assailed on all sides by – among other tendencies – flexible working, portfolio careers, multi-tasking, short-termism, quick-fix training, suspicion of expertise, confusion between elites and elitism, the downgrading of dedication, quantitative targets and box-ticking, the value attached to presentation skills and the rise of semiotic man, outsourcing off-shore, we'll write it, they'll print it, casino capitalism, the look at me! culture, fifteen minutes of fame, branding, one size fits all, the remote society* … (p. 14)

We might want to add to his list:

- a decline in tool use in a society which increasingly prefers to buy a new item rather than repair a used one
- an over-separation of thinking and doing, mind and hands
- pressures on time within some examinations and qualifications, which lessen opportunities for craftsmanship
- not enough vocational teachers who are confident craftspeople/experts within their discipline
- insufficient understanding about the pedagogies and cultures likely to cultivate craftsmanship
- an increasingly academic focus within schools, which is squeezing out those subjects traditionally associated with craftsmanship, as argued forcibly in the Crafts Council's 2014 publication, *Our Future is in the Making: an education manifesto for craft and making.*

Yet the UK still boasts craftspeople of the very highest calibre who are in demand across the world. Many colleges and training providers, as well as schools and universities, have pockets of real excellence. Our two case studies, Trafford College and Holts Academy of Jewellery, are excellent examples of this. Where the UK is outstandingly good in a range of occupations, it is very good.

With a resurgence of interest in apprenticeship, this practical guide redefines craftsmanship for the twenty-first century and reminds educators, employers and politicians that craftsmanship in a broad and contemporary sense is part of what we are able to export across the world. Craftsmanship, in the words of Jason Holt from Holts Academy of Jewellery, represents nothing less than 'a connection between humanity and pride and integrity and applying that in a tangible way to an object or a process or discipline or an output'.

The aim of this guide is to help educators, especially those at further education (FE) colleges and independent training providers (ITPs), think about why craftsmanship is so important today and how it can be developed in learners.

WHAT IS CRAFTSMANSHIP?

In *An Ethic of Excellence,* Ron Berger (2003) reminds us that:

> *In carpentry there is no higher compliment builders give to each other than this: That guy is a* craftsman. *This one word says it all. It connotes someone who has integrity and knowledge, who is dedicated to his work and who is proud of what he does and who he is. Someone who thinks carefully and does things well.* (p. 1)

If craftsmanship is so important in the workplace, it is vital we take the time to develop it in those we are training for work. In *How to Teach Vocational Education* (Lucas et al, 2012), we suggested six desirable outcomes for practical and vocational education. 'Craftsmanship' was a key outcome, alongside

- routine expertise
- resourcefulness
- functional skills
- business-like attitudes
- wider skills for learning.

If we want our apprenticeships and vocational education to develop craftsmanship in young people, what is it, and how best can it be learned?

Expertise or attitude?

The word 'craftsmanship' suggests having an aspiration for excellence and pride in a job well done. It goes beyond technical proficiency to include a set of attitudes that makes the learner both self-sufficient and constantly striving. It means carrying out the job, skill or craft 'in such a way that the technique is combined with, even subservient to, a sensibility, a feeling for the materials, a sense of interpretation, or a sense of "style"' (Atkinson et al, 2013, p. 499).

While it is a characteristic we would expect from any person with high-level expertise, it is also an approach to life, work and learning.

Perhaps it is helpful to focus on a craftsmanlike *attitude*, or a set of craftsmanlike dispositions, as being desirable outcomes of training.

Craftsmanship is also bound tightly with the notion of identity. It reflects not just who an individual is and what they can do, but their beliefs about themself as a practitioner. For Richard Sennett, author of *The Craftsman* (2009), the desire to do a job well for its own sake is a basic human impulse, and a rewarding one: 'The emotional rewards craftsmanship holds out for attaining skill are twofold: people are anchored in tangible reality, and they can take pride in their work' (2009, p. 21).

Thinking about craftsmanship, he argues, should not be limited to the traditional realms of skilled manual labour. Those who work with people or symbols, as well as objects, can aspire to excellence and pride in a job well done. The computer programmer, the beauty therapist and the accountant can take a craftsmanlike attitude to their work as much as the florist, the caterer or the cabinet maker.

Something old, something new

Craftsmanship was at the heart of the medieval forms of apprenticeship in England. Today, it remains a highly desirable attribute in many vocations (and, we would argue, one that could be useful in all vocations in some form). The Guild of Master Craftsmen (2015), for example, recognises and promotes the importance of excellence in workmanship for all tradespeople. Craftsmanship is an asset that can set tradespeople apart in securing business from members of the public. Unlike employers, who have ready knowledge of a person's qualifications, members of the public tend to rely on recommendation and reputation where the idea of 'craftsmanship' is powerful.

Three strands

There are three strands to our thinking on craftsmanship. Each has implications for teaching and learning. Each brings opportunities for teachers to weave techniques together in ways that are appropriate for their own subject area.

1 It's learnable.

2 It's about 'becoming'.

3 It's about the culture.

Learnable

The idea that you can learn to be craftsmanlike is essential. For it is only worth trying to teach students to develop the habits of a craftsman if we believe this is possible. Learning to be a craftsman hinges on two related ideas. Firstly, one of mindset. Secondly, one of practice. To develop a habit, we need both the right mindset and effective practice.

Becoming

Part and parcel of vocational education is the sense in which learners are learning *to become*, to acquire an identity for working. Over a period of time, they learn to take on the identity associated with their vocation as they internalise its roles, responsibilities and tacit knowledge. Craftsmanship must be similarly internalised.

Culture

The third strand is about context and culture. As our two case studies show, craftsmanlike behaviours are promoted when leaders model their commitment to excellence and when 'second best' or 'good enough' are not tolerated. These behaviours are rewarded when leaders value effort as well as end product.

It is with the power of culture and role modelling in mind that we explore implications for pedagogy that develops craftsmanship in this short guide.

WHY IS CRAFTSMANSHIP IMPORTANT TODAY?

Recently there has been a resurgence of interest in craftsmanship. Writers immersed in their own areas of practical expertise such as Ron Berger (2003), Mike Rose (2004), Richard Sennett (2009) and Matthew Crawford (2009) have led thinking on this, with a focus on the sense of fulfilment derived from a job well done.

Craftsmanship is about the development of habits that bring together 'thinking' and 'doing' in a rewarding way that produces quality and enjoyment, for both the maker and the recipient. As Alan Cooper (2008) said:

> *The goal of craftsmanship is to get it right, not to get it fast. The ultimate measurement of craft is not speed. It's quality. How good is it. It's a pure measurement. And a delightful measurement. Craftsmen – craftspeople – do it over and over, until they get it correct.*

Skilled craftspeople do things differently. Among other things we might say that they:

- are attentive
- can be self-absorbed
- notice things more precisely
- set demanding goals
- are responsible
- are reflective and enjoy giving and receiving feedback.

Craftsmanship goes beyond technical proficiency. It denotes a certain attitude towards work. Novices can – and should – be trained to think and perform with 'craftsmanlike' dispositions.

Essentially, whether for the benefit of employers or employees – and we argue that the needs of the two are strongly intertwined – developing individuals with craftsmanlike dispositions can provide people with a sense of orientation that engages them with their work. The International Network on Innovative Apprenticeship (INAP, 2012) argues that today's flexible labour markets make occupational commitment and a sense of responsibility on the part of employees all the more important. Commitment to the workplace comes about through occupational identity: 'the basis of a professional ethic, which is based on intrinsic motivation' (p. 10). The craftsman has the benefit of being truly engaged; something Richard Sennett (2009, p. 20) refers to as a 'special human condition'.

CASE STUDY 1: TRAFFORD COLLEGE

Manchester-based Trafford College is a leading provider of education and training aiming to meet the needs of young people, adults and employers alike. With its STEM centre, opened in 2013, Trafford College is at the forefront of science and technology innovation. The College has received numerous accolades that demonstrate the success of its provision, including a first-place ranking with 100 per cent satisfaction ratings in the 2015 National Student Survey. Its central purpose is to train its 7,000 students to develop and gain new skills to enable them to succeed in employment. Interviews with staff members at Trafford College paint a picture of its innovative thinking around the pedagogies of craftsmanship that takes place in this inspiring learning environment.

We asked Sir Bill Moorcroft, Trafford College's Principal, for his views about craftsmanship: how he understands it, how he encourages its development, how (and whether) it's recognised, how others can develop it and whether it is even the right word to use today. We spoke also with two of Trafford College's lecturers and a student. Their voices appear throughout this case study.

For Moorcroft, working in an educational establishment with a teaching and learning function, his view of a craftsman is coloured by the dual role of his staff, as both teachers and practitioners. Craftsmanship is incomplete at Trafford without a certain expertise in the area of teaching. Craftsmanship in his team is only truly formed when a person has high levels of capability: in theory, in practice *and* in pedagogy. 'Craft' skill – the technical aspect – must be backed up by 'hierarchical knowledge skill' and by pedagogic skill: the 'craft' of teaching and learning. He uses 'craft' and 'skill' interchangeably as he describes what it means to be a craftsman.

The role of lecturer as both expert and teacher was echoed in our conversation with a lecturer in beauty therapy. For this member of the team, the 'craftsman' must have the skills and knowledge to be able to pass on their expertise through education. Thus skills can be technical, theoretical and pedagogical.

To the beauty therapy lecturer, craftsmanship in teaching is seen when the teacher:

- Cares to be 'particular' about the way things are done. This will include preparation of the area, the equipment, the appearance of the specialist and the way the treatment 'flows'.
- Pursues their own learning. This is necessary for the students to respect the teacher's current knowledge of the industry. In an area where technology and technique is continually updated, staying relevant depends on keeping current with courses.
- Puts their own learning into practice. Students like to hear real-life examples.
- Has a range of specialisms. It is important that teachers can relate to each student regardless of the treatment area each wants to pursue. Having a range of specialisms is therefore helpful.

The nature of the technical content will have implications for the appropriateness of particular teaching and learning methods. Pedagogic expertise is thus highly context-dependent. For example, it is almost to be expected that, to a pedagogic and technical expert from another field, an expert computer coder and teacher may make the teaching of coding look uninspiring! Like Moorcroft, the beauty therapy lecturer also expressed the view that non-specialists cannot truly recognise expertise in a field that is not their own.

She finds that she often has to attend to maintaining student engagement rather than developing their craftsmanship. But to develop the thinking process that 'specialists' go through, she will pose leading questions that make the student think about how to solve a particular problem. For example: 'Your client doesn't look that comfortable. What could you do to make your client more comfortable here?'.

The business lecturer saw her course as developing craftsmanlike dispositions (although not specifically intentionally) through elements of collaborative projects (that may or may not also be competitive), as well as through encouragement and reflection. Development of reflection becomes ingrained over time through continual use. Learners being left to their own devices to make their own decisions and mistakes is also important. For the student, being craftsmanlike means that they welcome and make use of feedback, have high expectations for their own performance and are able to filter out distractions. The student values encouragement, patience, high expectations and role modelling from their lecturer. With the exception of 'talented', which may be natural ability or formed through discipline, other words both teacher and student associate with being craftsmanlike show us a number of learnable *habits* of a craftsman:

- takes pride in their work
- is hardworking
- has an eye for detail
- shows passion
- is creative and innovative
- is determined and resilient.

Different areas of technical expertise bring out different elements of craftsmanship. For beauty therapy, craftsmanship is seen in the customer service, the product knowledge and the combination of psychomotor skills that go into producing a satisfying experience. The beauty therapy lecturer saw craftsmanship in her area as a balance of interpersonal, presentation and equipment handling skills. The equipment for her trade carries inherent risk, and there is much to learn about combining the pieces of equipment. The client–therapist interaction is also key. Therapists are adept at listening to clients and obtaining the information they need, making decisions that involve the client, putting clients at ease and maintaining appropriate personal space.

Moorcroft expressed that in engineering or woodwork, an understanding of the materials comes to the fore in expressing craftsmanship. For hospitality – food preparation, cooking and patisserie – understanding of the 'materials' is important, of course, but craftsmanship is seen in the artistry that transcends this and brings together the elements of food in a way that pleases the senses.

He reflects upon the way in which something is lost when curriculum focus becomes too narrow: by no longer teaching catering students specific lessons in 'food science' or 'art' as part of their training, what aspects of skill mastery are those students perhaps bypassing?

Craftsmanship as a term remains particularly relevant where it has historical precedent in craft guilds. To Moorcroft, this includes in patisserie, bakery, carpentry and watchmaking, but not in, say, beauty therapy or other more 'modern' highly skilled occupations. For his lecturer in beauty therapy, however, the word 'craftsman' holds relevance today in any area of vocation. Although initially associating the term with a mental image of male-dominated building and manufacturing trades, her view changed on reflection. To her, it denotes someone who is a specialist, although that person can have specialisms in a number of areas. Moorcroft's colleague lecturing in business enterprise and entrepreneurship associates craftsmanship with construction trades: people who have a 'craft' and can 'make' something: builders, joiners, carpenters. Was this symptomatic of her identity as female, or of her position in a non-traditional subject area? Both the business lecturer and her student, interviewed together, talked about how 'craftsmanship' emphasised outdated tradition that they might associate with particular job roles, but not their own. Although not put off by the gendered nature of the word, neither would use the word 'craftsman' in everyday parlance in their work context. They saw their own work as more progressive and innovative. For both lecturer and student, the importance of craftsmanship was to be found in its relationship to having found your passion in life, fixing your eyes on something you want to believe in, and avoiding boredom.

Moorcroft considers there may be something in the use of 'doctor'. In the traditional academic educational route, qualified individuals are either a bachelor, a master or a doctor. Why not in the vocational path?

Moorcroft reflects that, to foster a rounded craftsmanship in those delivering the curriculum at the college, those who must be craftsmen in the practical, the theoretical and the pedagogical aspects have to keep learning. When a person thinks that a qualification is the pinnacle of their achievement and reflects that they are the 'expert', then pride gets in the way of self-development. Instead, they need to get out of their day-to-day and learn alongside other masters and those they recognise in industry as being the best.

IN BRIEF	
It's learnable	Craftsmanship is about fixing your sights on something you want. Specialists go through a particular thinking process which learners need to learn.
It's about 'becoming'	Teachers need to get out of the day-to-day and learn alongside other masters and the best in the industry. Craftsmanship can only be formed in a teaching context when a person has high levels of capability: in theory, practice and pedagogy.
It's about culture	There needs to be an understanding that staff are both teachers and practitioners; they need to excel in both.

TABLE 1 Three elements of thinking about craftsmanship at Trafford College

CASE STUDY 2: HOLTS ACADEMY OF JEWELLERY

Holts Academy in London is the UK's leading independent training provider for the jewellery industry, aiming to create innovative, substantial training for its students, both school-leavers and career-changers.

Since opening in 1999 it has trained over 10,000 students. It provides accredited qualifications at all levels, as well as apprenticeships, aiming to create the next generation of jewellers, designers, artisans and designer/makers. Its alumni win prestigious national and international awards for jewellery making, goldsmithing, silversmithing, CAD design and design.

Jason Holt, son of Holts Jewellery founder Robert, established Holts Academy because of the dearth of creative talent in the industry that meant the future of craftsmanship was under threat. Alongside Holts Academy is a third enterprise: Holition. This innovative company uses augmented reality technology to facilitate customers trying on products virtually.

We spoke with Holts Academy founder Jason Holt, as well as one of his apprentices. Coming from a craft industry, Jason Holt associates craftsmanship with the personal creation of a specific object:

> *… something beautiful that has been meticulously thought about and designed and/or made into an object or a piece of craft or art that there's evidence that it's been done by a person and done with a lot of thought and heart.*

The element of physical interaction is an important aspect of the word 'craftsmanship' for Jason. Unlike other words that might denote expertise or quality, craftsmanship 'communicates a certain value about the human touch'.

In similar fashion, Jason's apprentice associates craftsmanship with the physical, tangible crafts: 'like a stonemason', for example. For him, what sets these traditional skills aside is the perception that they fall outside of today's fast-paced world of business transactions. He seems regretful that 'the perfect thing that would take you a year to make' must on occasion be done quickly because 'sometimes, quality is dropped for speed'.

Yet both Jason and his apprentice see how craftsmanship could be applied outside of the realm of work that is immediately physical and tangible. The value of human touch that Jason talks about is about a 'connection between humanity and pride and integrity and applying that in a tangible way to an object or a process or discipline or an output'. He sees all these areas: object, process, discipline, output, as being touched by craftsmanship.

Our apprentice also experiences these moments of pride and integrity in his own 'craft'; an area of work with symbols rather than with objects. He has moments of pure satisfaction from his craft, where sometimes he is able to pause and reflect elatedly that: 'Oh man! This is perfect.' As an example, when he works on a piece of programming and is gratified by the finished product: 'this is really concise. This is exactly what I wanted to do and it's future-proof and it adheres to standards.'

These kinds of internal dialogue give him a real sense of achievement. A 'good day' happens when he finds a perfect solution to an aspect of a project: you have a plan and it just works: 'it all fits nicely; you don't have to do anything you would consider hacky or horrible'. Like the mathematician finding the perfect solution to an equation, there is something beautiful about the perfect-looking piece of code. Our apprentice is now able to recognise real craftsmanship in code writing, and can appreciate it as such.

What comes through strongly from Jason is that learning to be a craftsman takes time, and it works best through an apprentice–teacher type relationship where both are heavily invested. When an apprentice is committed to being a part of the team rather than being a transitory element, there is a level of sharing 'that goes beyond a normal training, learning relationship'. There is a continuous momentum:

> *… back and forth, back and forth and back and forth, every day, every hour of the day with what the apprentice is learning and doing and checking that with the Master, with the trainer … the momentum of apprenticeship supervision is unlike anything else. It's constant. And that constant supervision is a two-way thing … I think that it gives the teacher, the supervisor, a sense of satisfaction and a sense of reflection in themselves that's very unique.*

The apprentice likens some of the characteristics we would associate with a craftsman to someone who is 'just passionate about what they do'. For him, passion leads to immersion, absorption, and to noticing the finer details: 'anyone who is passionate about something will … have the potential to notice the finer details of something, simply because that's what they like doing'. Yet passion combined with knowledge is what gives the person the status of craftsman, and to 'fix whatever problem you've got, or make whatever you want to make'. In his own life, our apprentice surrounds himself with people who share his vocation, as well as his passion for it.

The ability to be absorbed completely in their work is one disposition that the craftsman has. You might see our apprentice 'concentrating' and even 'occasionally getting a bit irritated!' when things don't come together. He will also set demanding goals for himself or, at least, appropriate goals that involve exercising his own discretion and meeting top-down goals using his own craftsmanlike judgement. Especially aware of his junior status, he uses feedback to identify where he needs to improve and sees this as essential.

When viewing a problem for the first time, he will look at how he might break it down into smaller, more manageable components. Following that, he is a dab hand at resourceful use of colleagues' knowledge and 'spend[s] a lot of time Googling!' by way of making inquiries. But finally, improvements are only made by doing: 'you can study it for ages, but unless you actually program, there's no way you're going to get better at programming'.

For our apprentice, learning is continuous in a complex field where the stock of knowledge is 'ever changing'. He will begin a project with many unknowns; be resourceful about finding enough answers 'to get you by' and continue through many iterations of learning as the project progresses and more knowledge is needed.

Jason sees craftsmanship as on the increase in terms of its importance to society. In contrast to his trade of 20 years ago, he believes 'the public is more discerning and more knowledgeable about what it is; what it means to make something with pride' and, thus, there is more appreciation of craftsmanship today. He wonders whether this is, in part, 'a distaste now to mass produced items' that the market is 'awash' with. Real craftsmanship is like a breath of fresh air, like being 'amongst the green fields of the countryside [rather than] living in an urban jungle'.

Craftsmanship is powerful branding. Jason makes an interesting reflection on what it takes for the consumer to perceive that a product is the result of craftsmanship. It does not necessarily require use of handtools and shunning of machines. Certain brands of electronic media devices obtain cult status and – despite being assembled *en masse* in the Far East – maintain an image of high quality associated with individual craftsmanship.

Is it that the manufacture element (as distinct from assembly) involves the use of high-tech experts in sophisticated labs? Or does it, as Jason suggests, depend upon how close a connection the marketing team ensure that the consumer has to the people who design, make, or own the business? Narratives are constructed that ensure a 'psychological response to the item' by equating it with craftsmanship:

> *So for instance, I can imagine a mass produced watch, mass produced by people in the factory. And you take for example, the story of how every single watch is listened to by the founder … [It] is mass produced effectively. The emotion I had for something that is made in millions would, I think, depend on how close I can make a connection to that object and the people who made it.*

IN BRIEF	
It's learnable	Learning to become a craftsman is a continuous process. Deliberate practice aids learning: breaking problems down into more manageable components helps solve them.
It's about 'becoming'	Learning to be a craftsman takes time, and immersion in a close team is important.
It's about culture	There is a wide cultural element that stimulates demand for craftsmanship in products.

TABLE 2 Three elements of thinking about craftsmanship at Holts Academy of Jewellery

THE PEDAGOGY OF CRAFTSMANSHIP

In developing a practical pedagogy of craftsmanship, we first outline some challenges. These are the sorts of things that teachers and leaders of training providers have to contend with. They relate to things like time, money and competing priorities.

Next we look at two key philosophies:

1 Signature dispositions – the importance of developing craftsmanlike dispositions alongside subject expertise.

2 Visible learning – the goal of making learning visible through sharing beliefs about what teachers are trying to help learners to do.

We then explore each of our three strands of teaching and learning for craftsmanship:

1 It's learnable.

2 It's about 'becoming'.

3 It's about culture.

Interspersed throughout are practical techniques and strategies that teachers can adopt.

Challenges

In *Remaking Apprenticeships* (2015), we argued that more than any of the other desirable outcomes for practical and vocational education, the development (and assessment) of craftsmanship in the workplace brings some real challenges.

Many of the challenges we proposed have their own equivalent in FE colleges and ITPs, and are equally applicable to pedagogic leaders in these institutions. We highlight some of these in Table 3.

ON THE JOB (WORKPLACE) (LUCAS AND SPENCER, 2015)	OFF THE JOB (COLLEGE/ITP)
Deadlines/sufficient time to perfect a piece of work	The rigidity of the college timetable; lack of opportunities for extended work and storage of work-in-progress
The availability of a craftsmanlike role model	The availability of teachers with current, relevant, industry standard experience
Peer pressure for learners not to appear too 'pedantic'	Self-consciousness of learners not wanting to appear that they need practice
Pressure of other work-in-progress that requires attention	The brevity of the training course and volume of material covered
Quantitative targets	Assessment processes that value other skills over craftsmanship
Distraction of multi-tasking	Lessons focused on specific skills and processes may not give sufficient time to embed learning
The perceived opportunity/cost trade-off of doing a job fit for purpose, and doing a job perfectly	The time available/allowed to cover a particular skill area may be insufficient
Lack of accountability (and perhaps recognition) on the part of the learner where they are involved in production of only part of a larger product or service	May apply where group-working is used for efficiency rather than as a pedagogic choice
Employers who may be less concerned with quality	Tutors who may be less concerned with quality; learners who know they will be returning to employers less concerned with quality
Temptation to do a 'good enough' job …	… and failure to link each aspect of training consciously with employability
Pressure of completing a job in a short enough time to ensure it remains profitable …	… or to fit into the course module structure
Wastage of material if something isn't 'quite right'	Availability of resources and cost of re-work
The need to practise other skills …	… including functional literacies
Motivation of the learner to exert effort where a task is difficult and also repetitive, or of low perceived value	Learners not seeing the bigger picture and the importance of mastering the more basic skills before progressing

TABLE 3 Challenges of teaching for craftsmanship

Many of these challenges may be recognisable, and certainly represent the context within which many teachers and leaders operate. To tackle these challenges, a cohesive approach is needed.

A philosophy for teaching and learning

Signature dispositions

Every occupation is different. Each calls on its own distinct blend of dispositions or habits of mind which enable its practitioners to perform their work tasks well. We call this blend 'signature dispositions'.

Dispositions can be thought of as a resource bank of possible ways of responding to a problem. Some may be more appropriate than others, depending upon the particular context at a given moment. Learners with a well-developed bank of dispositions can, with time and practice, bring to bear the right one at the right time. Take a diamond cutter as an example:

> *A good diamond cutter has a different disposition than a good dog trainer. The one is careful, the other commanding. Different kinds of work attract different human types, and we are lucky if we find work that is fitting … [T]he term [dispositions] captures something important I want to explore, namely, the mutual entanglement of intellectual qualities with moral qualities. This entanglement shows itself in the work we do.* (Crawford, 2009)

Regan Gurung and colleagues (2009; and subsequently Chick et al, 2012) have explored what they call 'signature pedagogies': the teaching and learning most likely to develop the specific characteristics of a particular subject discipline or vocational area. They have looked at such broadly ranging vocations as agriculture, computer science, art and design and nursing.

We suggest that 'signature dispositions' might be a helpful way of thinking about how to develop the desirable outcome of 'craftsmanship' in a specific occupation, with the mix varying from one 'discipline' to another.

There may also be some dispositions which are generally useful to anyone aspiring to be a craftsman.

In *Studio Thinking* (Hetland et al, 2007) researchers spent time in school-based art studios to discover what it was that excellent visual art teachers actually teach. Perhaps surprisingly they 'almost never saw technique taught as an isolated skill' separated from the context in which it was needed. *Studio Thinking* found that whenever teachers were helping students to develop their technical skills, what they were actually doing alongside that was 'also inculcating one or more [of a set of] habits of mind'. Craftsmanship emerged in students as teachers taught this 'hidden' curriculum.

The eight 'studio habits' so key to the development of craftsmanship for Lois Hetland and colleagues are:

1 Engage and persist	• learning to embrace problems of relevance and/or personal importance • learning to develop focus or other mental states conducive to working and persevering at tasks.
2 Envision	• learning to picture mentally what cannot be directly observed • imagining possible next steps.
3 Express	• learning to create works that convey an idea, feeling or a personal meaning.
4 Observe	• learning to attend to visual contexts more closely than ordinary 'looking' requires.
5 Reflect	• question and explain: learning to think and talk with others about an aspect of one's work or working process • evaluate: learning to judge one's own work and working process, and the work of others in relation to standards of the field.

6 Stretch and explore	• learning to reach beyond one's own capacities • exploring playfully without a preconceived plan (taking a risk) • embracing opportunity to learn from mistakes and accidents.
7 Understand the industry	• domain: learning about history and current practices • communities: learning to interact within the particular community of practitioners.
8 Develop craft	• technique: learning to use tools and materials; learning conventions • practice: learning to care for tools, materials, space.

This eighth habit is the actual technical skills involved in mastering technique, as well as the practices considered important in a particular context.

These are the sorts of dispositions teachers will want to develop in learners if craftsmanship is to result.

In planning long-, medium- and short-term, teachers can consider how each of these habits can be developed in tandem *alongside* the practical skills and experiences they provide opportunities for.

Visible learning

Learners need to understand why and how teachers are working to instil craftsmanlike dispositions into them if craftsmanship is to emerge. The following quotation from John Hattie alludes to the challenges, goals and techniques involved in making learning visible.

> *Visible teaching and learning occurs when learning is the explicit goal, when it is appropriately challenging, when the teacher and the student both (in their various ways) seek to ascertain whether and to what degree the challenging goal is attained, when there is deliberate practice aimed at attaining mastery of the goal, when there is feedback given and sought, and when there are active, passionate, and engaging people (teacher, student, peers, and so on) participating in the act of learning. It is teachers seeing learning through the eyes of students, and students seeing teaching as the key to their ongoing learning.* (Hattie, 2009, p. 22)

We unpick these as we visit each of our three strands overleaf.

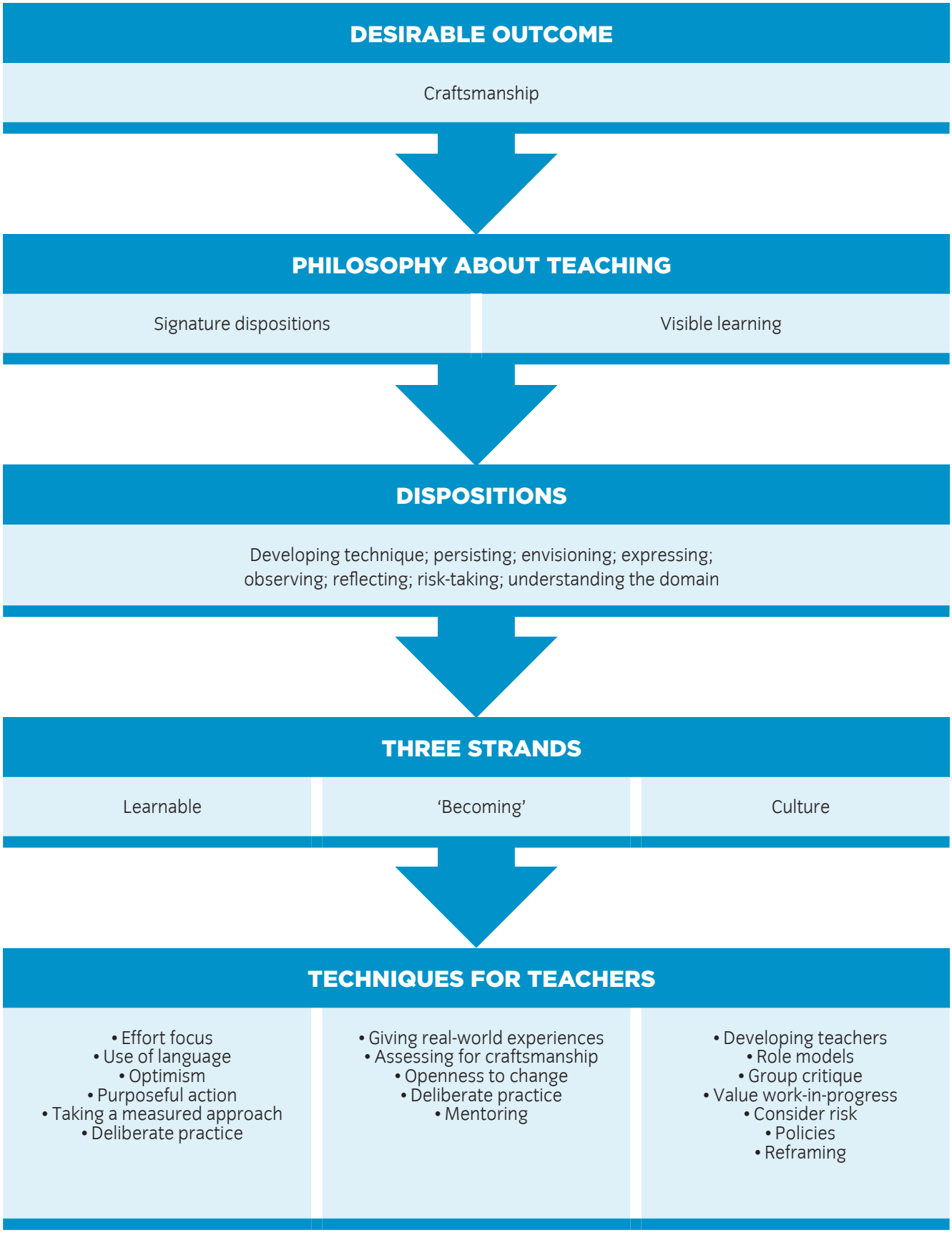


FIGURE 1 **A philosophy for teaching craftsmanship**

Strand 1: It's learnable

The first strand concerns the extent to which learners have a 'growth mindset' and believe that, with practice and effort, they can improve. This strand is also about developing learners who take a measured, deliberate approach to practice.

The sorts of disposition brought to light in *Studio Thinking* (in particular, those shown in Figure 2 in blue) can be helpful to keep in mind as teachers think about how to teach craftsmanship.

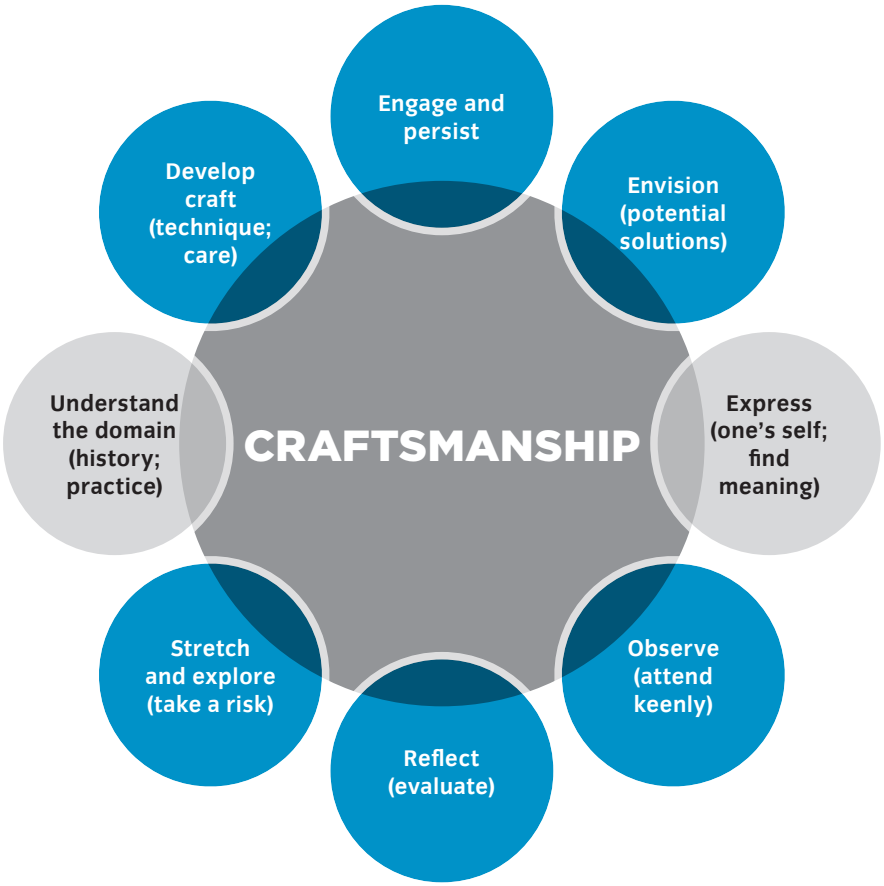


FIGURE 2 Learnable dispositions that develop craftsmanship (based on Hetland et al, 2007)

Bearing in mind the learnable nature of dispositions, several techniques can be helpful here. We explore each of these:

- effort focus
- use of language
- optimism
- purposeful attention
- taking a measured approach
- deliberate practice.

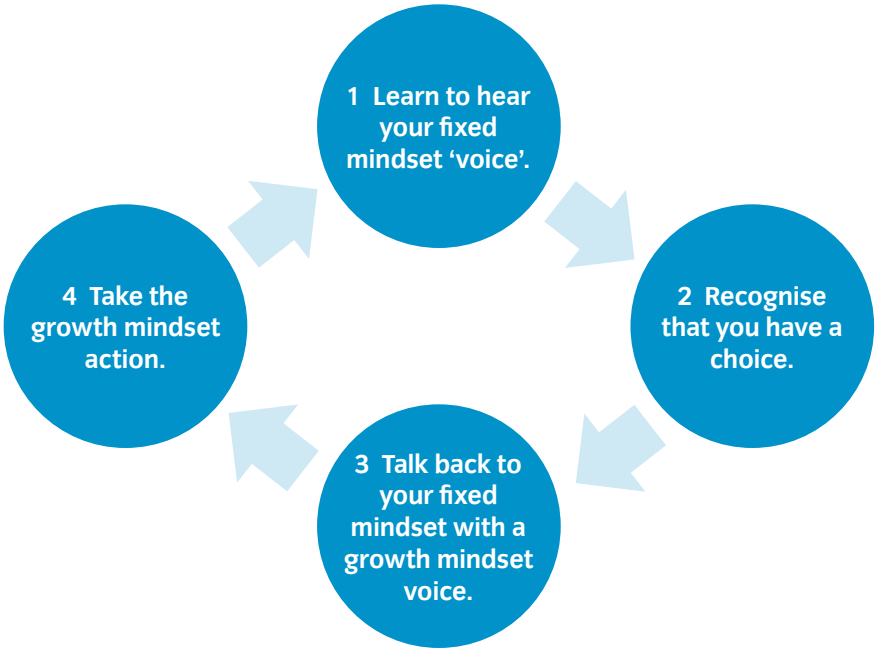
Effort focus

Carol Dweck's (2006) framework of 'growth' versus 'fixed' mindset is a simple idea, knowledge of which has profound effects upon both teachers and learners.

> *In a fixed mindset, people believe their basic qualities, like their intelligence or talent, are simply fixed traits. They spend their time documenting their intelligence or talent instead of developing them. They also believe that talent alone creates success – without effort. They're wrong.*
>
> *In a growth mindset, people believe that their most basic abilities can be developed through dedication and hard work – brains and talent are just the starting point. This view creates a love of learning and a resilience that is essential for great accomplishment. Virtually all great people have had these qualities.* (Mindsetonline, 2010)

For learners to feel confident about 'developing their craft', or to understand why they would benefit from 'persisting', an effort focus is essential. Without a growth mindset learners can see the need for persistence as evidence of failure and become too disheartened to apply themselves further.

Developing a growth mindset involves teaching learners to reframe their thinking. Dweck (2010) outlines a four-step process that teachers could use to help learners switch mindset:



Inspiring learners to begin to recognise the extent of their own potential and 'get a sense of what they can do' (Rose, 2004) is something that good teachers do. It is not difficult to imagine teachers finding appropriate ways of instilling this mental rehearsal process into students so that approaching problems, 'envisioning' solutions and taking a risk with a growth mindset becomes second nature to them.

Use of language

The language teachers use in the classroom or workshop is of vital importance. Many positive outcomes can be gained from talking in ways that develop learners' disposition to question, think and explain for themselves. Learners can 'engage' with problems more precisely if they have the dispositional language to hand.

In the classroom or workshop, teachers can bring to bear a vocabulary that foregrounds the goal of excellence in everything they do, using words and phrases like: 'drafting, polishing up, refining, shaping, moulding, re-working, re-drafting, critiquing, practising, and so forth' (Lucas and Claxton, 2013, p. 17).

They can avoid allowing learners to be passive recipients of knowledge all the time. Harvard psychologist Ellen Langer (1998) reminds us to use 'could-be' language instead of making definitive statements about 'what is'. This sends signals to learners that they are allowed to adopt a questioning mindset, take charge of their own investigations, 'envision' potential solutions, and follow lines of thinking their questioning sparks off.

Optimism

Teachers can try using positive language that demonstrates how to take a realistic level of ownership when things go wrong. This is particularly important for the potential craftsman, who needs to develop a helpful way of explaining and accounting for setbacks. Positive language keeps learners firmly in control, encouraging them to think about what they can do to improve. Martin Seligman's 3Ps (permanence, pervasiveness and personalisation) help explain this (Seligman, 1991):

- Permanence: the optimist does not wrongly assume there is a pattern when things go wrong. Problems are one-off setbacks.
- Pervasiveness: the optimist does not start to believe that failure in one area means failure in general. Problems are limited to a context.
- Personalisation: the optimist takes charge of what is within their control and doesn't begin to assume that everything and everyone is against them. Problems are benign.

Just like intelligence, optimism can be learned and modelled. Teachers can use positive explanation styles when facing their own challenges in the classroom or workshop or salon. Perhaps they can allow learners opportunities to reflect and evaluate, giving specific self- and peer-feedback that is framed in a positive style of explanation.

Purposeful attention

Developing 'craft' can be thought of as a habit comprising two main elements (Hetland et al, 2007):

- working with purposeful attention
- caring for materials and tools.

A learning space may not look busy, but in fact learners may well be working hard. While they may appear casual, 'they are thinking visually, analytically, critically, creatively' (p. 13).

There are two elements to attending, or observing, that develop craftsmanship, and these could be highlighted to students. Firstly, it is careful. It is about noticing the fine detail. Teachers can ask students questions that hone their attention to the small, but often critical, aspects of their own work, or to what the teacher is demonstrating. Secondly, it is intentional. Whether watching others with a view to imitating their behaviour, or looking closely at their own work, learners need to be intentional about what they are observing.

Moderation

This is about taking a measured approach; knowing when to 'take a risk' and when not to. Richard Sennett, (2009) compares the behavioural tendencies of two architects, only one of whom is a 'good craftsman'. The good craftsman is never over the top in their response to the material in hand. They demonstrate restraint, and take a measured approach in decision-making. The good craftsman:

- Understands the importance of the sketch – 'that is, not knowing quite what you are about when you begin'. They use the informal sketch as a working procedure for preventing premature closure.
- Places positive value on contingency and constraint. This means that they see problems as opportunities and so do not become blinded to possibility through their own obsession.
- Does not pursue a problem relentlessly to the point that it appears perfect, but ceases to work for the user. Instead, they allow a measure of incompleteness.
- Avoids perfectionism that is aimed more at showing what they are capable of than at ensuring an object is useful.
- Knows when to stop because further work would cause their product to degrade.

The final three points in particular all illustrate the same basic characteristic, which we might call one of self-control. Being able to 'envision' might be important here. Learners need to be encouraged to pause and picture the next steps.

Teachers can try mental rehearsal techniques with learners. Mental rehearsal is often associated with physical sport practice. Imagining something before it happens helps to strengthen neural pathways required for a skill to develop. It helps learners to think through the actions required, and to become familiar with those actions. For our purposes, it might also help learners to visualise what the resulting output might look like and adjust their plans accordingly. This process can be iterative, continuing until learners are satisfied that the only way forward is to take action.

Teachers can try drawing attention to learners' work at each draft, especially as it draws to completion, and help them to ask questions to know when to stop. Sometimes learners need the judgement to challenge accepted norms of practice in establishing whether a product is 'finished'. In an episode of *Masterchef Australia* (Tenplay, 2015) where contestants prepared *Lamb Noisettes à la Forestiere*, renowned chef Marco Pierre White hinted to one contestant that she should taste her Madeira gravy. Although step 22 of the recipe stated that the sauce should have simmered for 30 minutes, the contestant reflected later that the chef was clearly trying to tell her to go with her instinct. If the sauce tastes right, don't spoil it by cooking longer just because the recipe says so!

Deliberate practice

Sometimes the best way of learning is to 'play the whole game' (Perkins, 2009) and really immerse learners in producing something complete. But, at some point, discrete skills need to be honed. To become an expert, to 'develop craft', or a craftsman requires many hours of practice of a kind described as 'deliberative' (Ericsson et al, 1993; Dreyfus and Dreyfus, 1980). Deliberate practice involves breaking a task down into its constituent parts and practising the 'hard parts'.

Breaking a job or skill down like this sometimes means that stoic repetition is needed. Deliberate practice is hard. In *So Good They Can't Ignore You*, Cal Newport (2012) proposes that rather than chasing after their 'passion', learners should learn to love what they do. By cultivating a sense of fulfilment in the process of skill development, he argues that passion comes not from the job content itself, but from a sense of mastery and pride. For Newport, the difference between the craftsman mindset and the passion mindset is stark:

- The craftsman mindset: an approach to your working life in which you focus on the value of what you are offering to the world.
- The passion mindset: an approach to your working life in which you focus on the value your job is offering you. (p. 232)

Favouring the craftsman mindset, he argues that there is something 'liberating' about it:

> *It asks you to leave behind self-centred concerns about whether your job is 'just right' and instead put your head down and plug away at getting really damn good. No one owes you a great career, [the craftsman mindset] argues; you need to earn it – and the process won't be easy.* (p. 39)

This is about persisting in the face of difficulty. But what can a teacher do to cultivate this mindset? Tell students, in the words of Newport, to 'be so good they can't ignore you'! (p. 231). Deliberate practice can help. Allow students time to practise the same skill in different situations. A professional golfer hones their swing in all weathers, with the full range of clubs and irons, and on a variety of courses. The trainee pastry chef develops their skills with a wide range of ingredients. Different recipes will need varied finishes, times and temperatures. Variations in these elements gives practice at getting the main ingredient, the pastry, just right, and makes sure their skill is reliable.

Strand 2: It's about 'becoming'

Craftsmanship implies a level of mastery: the learner has become an expert. Of course, even the expert has room for development. Through tools and techniques that help the learner 'become', each of the eight dispositions (shown in blue in Figure 3) are developed.

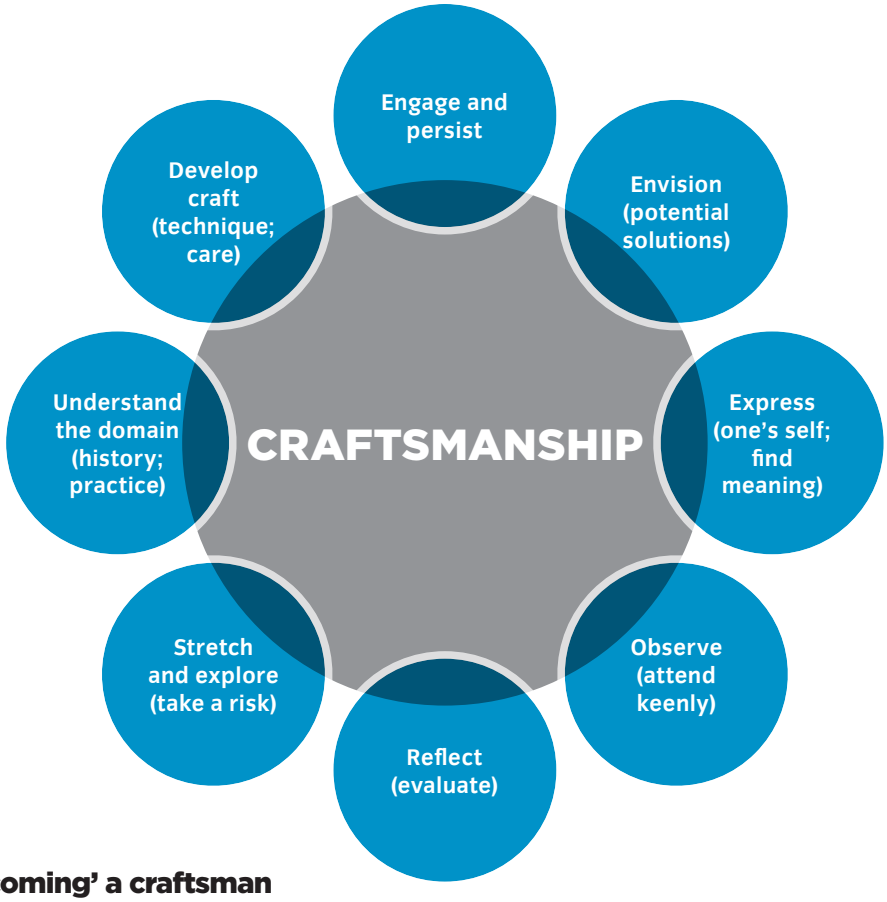


FIGURE 3 **'Becoming' a craftsman**

We expand on a number of techniques that might be useful to the thoughtful teaching practitioner interested in helping learners to develop these dispositions; to *become*.

Learning to be a baker, to borrow Selena Chan's (2013, p. 371) example, is about more than learning the information and skills of the trade. It is about developing a combination of capacities and identity 'associated with practising the occupation of a baker'. This includes those craftsmanlike dispositions essential to the delivery of excellence in baking.

In considering the *how to* of pedagogy, leaders will want to think about how they can teach learners to 'think like' competent members of the communities into which they are learning to become. Each of the dilemmas outlined in our challenges table (Table 3) provide interesting talking points. In day-to-day teaching there will be numerous opportunities for teachers to discuss with learners how craftsmanship and becoming a craftsman are always at risk from such pressures.

How can craftsmanship be developed through this strand of pedagogy? We look at what 'becoming' means, and some specific tools and techniques that address some of these dispositions. These include:

- giving real-world experiences
- assessing for craftsmanship
- openness to change
- deliberate practice
- mentoring.

Giving real-world experiences

Craftsmanship can be an intangible quality. We think we know it when we see it, but we cannot easily identify all its facets. We can hardly make it a criteria for performance assessment! It is a difficult thing to teach or to learn deliberately, in part because of the nature of design: 'Since the quality of workmanship is judged by reference to the intended design, it follows, as everybody knows, that what is good workmanship in one context is bad in another' (Pye, 1995, p. 50).

We judge craftsmanship by reference to the intended design, which may or may not be the same as the *ideal form* of a design.

As well, craftsmanship is hard to teach because although skill acquisition is a main objective of training, there are other aspects of the job 'that are not readily described or easily quantifiable in formal qualifications' (Chan, 2013, p. 370). Much of the knowledge held by craftsmen is *tacit* – in other words, it is difficult to explain to another person. The teacher's job is – somehow – to make the tacit explicit.

Craftsmanship is hard to teach and learn because it is so closely tied to the cultural and behavioural norms of any particular workplace; the particular *domain*. It means different things in different places. Learners need to be immersed in an organisation to observe how things really happen, and to understand its norms. In *An Architecture for Modern Apprenticeships*, the International Network on Innovative Apprenticeship (INAP, 2012, p. 10) suggests that employers give apprentices real-world opportunities 'to shape the overall context and business processes of a company and to understand how they contribute to the success of the company'.

Selena Chan makes the point that apprentices' training – with its specific occupational requirements and use of particular stock in trade (eg bakery products) – instils in them a certain disposition; one that combines a 'duty of care', a sense of responsibility, the practice of reflection, and attention to quality. It does this by 'acculturating apprentices to specialised approaches to work as epitomised in their workplaces' (p. 377). By being immersed in the workplace, these elements can come together over time.

What can teachers do? Off-the-job training might make use of the studio approach observed in *Studio Thinking* (2007). This technique, with its combination of extended time and group critique, helps build a real learning community within the place of learning. Through the process of learning to reflect and critique with like-minded learners, students gradually gain the skills and confidence to express ideas and to broaden their area of influence out into the real world. They become able to engage with real practitioners in a meaningful way.

Assessing for craftsmanship

Craftsmanship gets ignored if it is not seen as a priority. While there are clearly elements of any training that do not align easily with certificate-based content, to leave them out would be to the detriment of the learner. Preparing them adequately for the workplace must include these hidden aspects to help them develop their craft. To quote Chan:

> *Many of the senses bakers use to evaluate fine and nuanced distinctions relating to the quality and type of ingredients, dough characteristics, finished products quality, bakery machinery operation and the baking environment (i.e. temperature, humidity) are only inferred in national qualifications. Yet the ability to utilise these sense-related skills is an important indicator of how well bakers perform their occupational tasks.* (2013, p. 371)

Teachers could try reflecting the importance of craftsmanship in their feedback, both formal and informal. Formative and summative assessment should recognise developing skill in craftsmanship. Formative assessment should provide learners with plenty of feedback for reflection on their journey.

Openness to change

Over time, new techniques are developed; new skills come to the fore. Markets and institutions change and craftsmen finds themselves needing to adapt. Willingness to take a risk is an important disposition to learn, and happens as learners take steps outside of their comfort zone.

Peter Korn, a furniture maker since 1974 and founder of the Center for Furniture Craftsmanship, observed from his own experience that contemporary design in furniture was moving on without him. It was 'shattering the remaining constraints of the Arts and Crafts narrative to connect with contemporary ideas and concerns'. He describes his experience and what he has learned about the need to adapt:

> *… to me, imprisoned within my own frame of reference, much of that exciting experimentation came across as flamboyant, self-indulgent, pretentious, shallow … anything but genuine. The most adaptive response would have been to assess the new terrain of studio furniture and ask if there were changes I could implement to move my own design and marketing forward. My actual response was to dismiss the new trends as somehow morally deficient, which allowed me to keep plodding on as usual.* (Korn, 2013, p. 112)

Change is not always viewed positively; indeed, it is not always a good thing for individuals. 'Flexibility' referred originally to a tree's capacity to yield to the wind as well as to recover. While flexibility can bring personal freedom, its practices in a society that 'is searching for ways to destroy the evils of routine through creating more flexible institutions' focus more often than not 'on the forces bending people', notes Richard Sennett (1998, p. 46).

Within this context, the craftsman should be open to change in a way that is not about pure pursuit of novelty or notoriety. It is more about refraining from obstinacy in the face of change. It might be about 'stretching and exploring' beyond one's own comfort zone. If certain objects are no longer of use, nor bought for their beauty, the craftsman is willing and able to refine their design and their skills in order to avoid obsolescence.

Teachers can encourage openness to change by asking or requiring students to:

- approach problems from a different angle, with a different tool, in a different team and practise doing things in alternative ways
- keep a record of their experience and learning to date, and take pride in what they have achieved so far
- ask themselves, when faced with disruption or uncertainty, 'what's the worst that could happen?' and prepare their own reaction to that eventuality
- focus on controlling what is in their power to influence and accepting the rest
- be discerning about fads and advice from others
- think ahead about how the industry might change, keep abreast of industry trends and technology by subscribing to current periodicals or trade magazines
- think positively about the way their industry/trade has progressed since its inception and explore how historic figures or heroes of the industry dealt with novelty
- view change as an opportunity; reframe their thinking if necessary.

Deliberate practice

Also relevant in our earlier discussion of craftsmanship being learnable (strand 1), this group of techniques is important in the context of 'becoming'. Deliberate practice is the kind of practising which really accelerates the development of one's craft, particularly as it develops dispositions of persisting and stretching. Expert guitar player and teacher Lukas Kyska (2012) offers this advice:

1 Slow down – if you slow things down you can really be sure you have got it right.

2 Start with a goal in your mind – you need to know what you are trying to improve and work towards it.

3 Chunk it up – break complex tasks down and practise separately.

4 Practise at the edge of your abilities – push yourself hard rather than practising the easy bits.

5 Get feedback – record yourself or ask for feedback.

6 Repeat – repetition develops muscle and brain memory.

7 Vary your approach – keep your own interest levels up.

8 Count good repetitions – don't watch the clock, count the number of times you repeat something tricky.

9 Record the data and review – keep a record.

10 Make it harder – put yourself under pressure.

11 Find someone who is better – surround yourself with the best.

Mentoring

Mentoring is something that can benefit both learner and mentor. Mentoring needs to focus on the development of the learner and listening to them to understand their needs, goals and journey. Learners need to be guided to find and 'envision' their own solutions so that dependency is not formed. As well as being craftspeople themselves, mentors need to:

- listen
- clarify learner goals
- provide support that is non-judgemental
- provide guidance on issues
- share relevant knowledge and experience.

Mentoring relationships tend to be most fruitful if they are relatively formal. Timings of meetings, recording of action points and feeding back on actions taken are all valuable parts of the process.

Where a provider or college does not have access to a relevant expert mentor, there are often organisations which can help. So, for example, the Furniture Makers' Company (2015) provides support at a range of levels, including for those who aspire to be really expert.

Strand 3: It's about culture

To encourage the development of craftsmanlike dispositions within their educational organisations, leaders of ITPs and FE colleges must signal unequivocally that they value craftsmanship. This means they need truly to accept nothing but the best from themselves, their colleagues and their students. A culture of craftsmanship needs to permeate all they do and say.

When leaders, or anyone in their team, undertake a piece of work, they must be aspirational about the standards they are aiming for. They should be intentional about their plan for delivering a successful outcome. They should be quick to show pride in success.

Within subject areas, college leaders and training providers establish the particular content for their curriculum in response to the changing needs of their respective industries as well as fitting it to the time available. Much of that curriculum will orbit around the development of specific technical skills, the time pressure of which may constantly 'squeeze' craftsmanship.

In these next few sections we offer some ways for teachers and pedagogic leaders to think about the way they develop craftsmanship through the culture of their organisations, as well as within their programmes of teaching.

Pedagogic Leadership (2013) offers a four-stage process to help leaders in the learning and skills sector shape and develop their organisation's vision for delivering a coherent pedagogy across the board. It involves taking stock of the current situation, articulating how things should look, creating a plan and then following that plan through. Leaders might consider adopting such an approach in deciding how to foster craftsmanship.

As you might expect, a culture that truly values craftsmanship will, by its nature, provide opportunities for learners to grow in each of the eight dispositions in Figure 4.

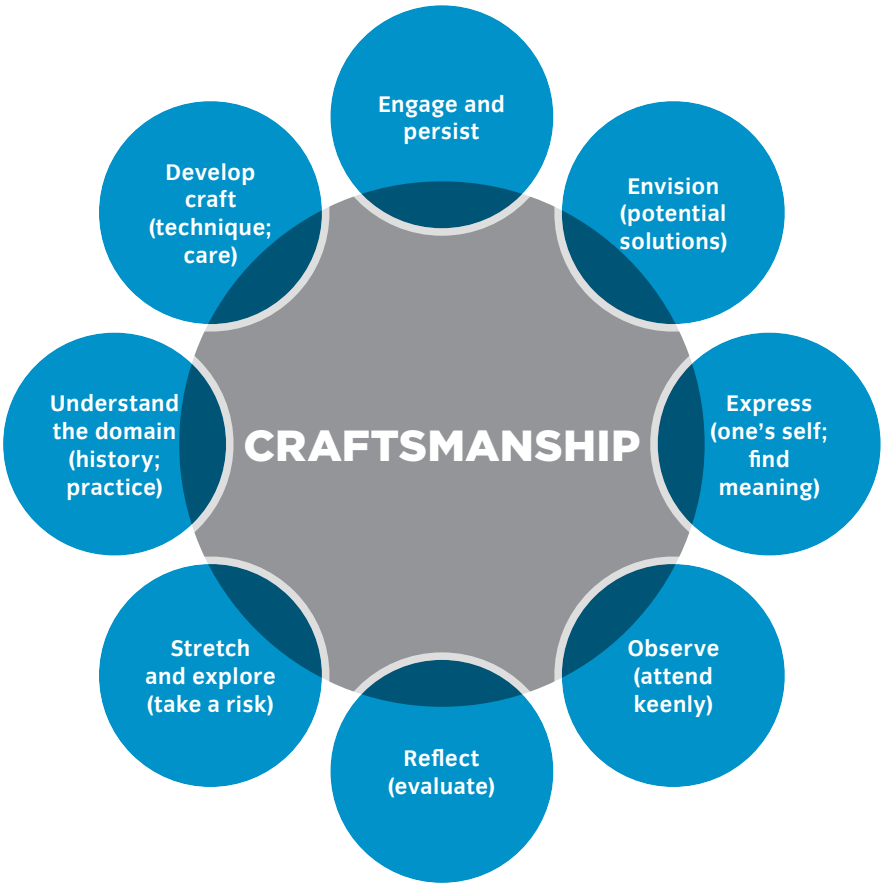


FIGURE 4 Developing craftsmanship by looking at culture

In developing culture to signify the value of craftsmanship, leaders might think about:

- developing teachers
- role models
- group critique
- value work-in-progress
- consider risk
- policies
- reframing.

Developing teachers

A criticism of vocational education has sometimes been the lack of up-to-date skills of some of its teachers. Some are no longer in industry so how can they know what is 'current'? As Principal Bill Moorcroft identified in our case study at Trafford College, craftsmanship is about knowledge, pedagogy *and* practice: 'you won't be the "best at" with the building and the facilities. And you won't be the "best at" with the best teachers. You'll only be the "best at" when you've got the best practitioners'. The best practitioners can best impart an understanding of the domain to learners.

To develop craftsmanship amongst teachers, colleges and ITPs must identify industry leaders and their best people within each sector. Relationships need to be built and developed. This might be a two-way relationship like, for example, when a university partners with a hospital to further research and knowledge development. Similarly, FE providers could offer a test-bed situation for novel solutions in industry.

Role models

Skilled activities are learned through observation, mimesis and repeated exercise (Atkinson et al, 2013). Learning through role modelling, or what Jeanne Gamble (2001) refers to as 'tacit pedagogic transmission', is still a foundational element of practical and vocational learning.

In the workplace itself, learners are given daily exposure to communities of practice where models (managers, supervisors, other peers) provide exemplars for them to aspire towards. It can happen by accident, which is why role modelling to impressionable learners requires thought. Those whom learners aim to emulate should demonstrate craftsmanlike ways of working themselves, and so a culture that values these dispositions is important.

In the classroom, workshop or other site of off-the-job training, consideration has to be taken more carefully about how opportunities for role modelling might be utilised. Keen and careful observation are dispositions of a craftsman. Learners need to be taught how to observe effectively in order to make best use of role models. Paul Atkinson and colleagues (2013) suggest that in the process of modelling, teachers are able to strive 'to make craft and artistic competence sufficiently overt for it to be assimilated by the student-performer, and thus available for commentary and criticism, emulation and repetition' (p. 500). Thus, craftsmanship is imparted to learners as modelling reveals seemingly hidden aspects of knowledge and skill.

As a new skill is being learned, teachers will want to bring into focus its applicability to the real job. How will this skill be applied in the workplace? What does excellence look like? It is at this point that an interplay between on-the-job and off-the-job learning can be so effective.

As brought to light in our case studies, drawing in external speakers, practitioners and people known to be 'at the top of their game' can inspire and help reinforce the off-the-job theory and skill honing that is taking place. Knowing it has an ultimate purpose helps learners to engage meaningfully with their learning.

David Corson's now longstanding advice (1985) is still highly relevant: that to develop craftsmanship, education programmes should encourage interactions with workers who are themselves 'craftsmen' and can offer an example of craftsmanship in practice. Learners should follow up these interactions with discussion about the exemplars they have seen.

Group critique

Learners' techniques can benefit no end from taking the time, with a group, to pause, reflect, counsel and discuss one another's work. In talking about their work, students learn to 'function as a community of learners focused on developing understanding as a group' (Hetland et al, 2007, p. 111) and to develop their sense of identity and sense of 'meaning' within an occupational setting. They can discover the benefits of interacting socially, gaining a sense of mastery, achievement, service and a feeling of responsibility. It also develops their thinking of *work as craft* (Corson, 1985).

Critique can be done at opportune moments during lessons. In *Studio Thinking* (Hetland et al, 2007, p. 62) researchers found that excellent teachers held lessons that contained certain key aspects: notably, short demonstration lectures were followed by extended pieces of work that students could really get their teeth into. Woven throughout these periods of work were moments of gathering together for observation, reflection, feedback and sharing of ideas.

This is not a 'three-part lesson'-type prescription. It is a model that can support teaching in any discipline where the student's own work is the focus of their learning activities. For example:

> *Before beginning another round of Students-at-Work, Jim helps students talk about what they see in their own and others' work that they think is more or less successful. Students discuss point of view in different drawings and the importance of intentionally choosing the point of view in a drawing. Jim concludes by telling students, 'So these are the kind of thought processes and choices you make with every single drawing'.* (Hetland et al, 2007, p. 62)

Value work-in-progress

There are two elements to work-in-progress that we can relate to craftsmanship. The first is the importance of *drafting* until a piece of work is done to a high standard. This process is how excellence is delivered and how persistence is learned. The second is the value held in the draft itself.

Before learners ask others to look at their work, they must first examine it themselves. Before a session of group critique, one of the teachers in *Studio Thinking* asks students to look at their own preliminary drawing. He sticks the pictures up on the wall and asks students to look at their own drawing and think about what's *wrong* with it.

Drafts and works-in-progress are facts of life in the real world. Nobody hands in a report for review and expects it to come back without corrections or suggestions. Yet much time can be wasted, as can opportunities for learning be lost, if students do not check their own work before asking someone else to look over it. 'Checking' can mean:

- physically taking a step back to check for overall correctness or sense of 'feeling right': neatness of a pipework join; whether a head of hair has been shaped evenly; whether the architectural plan gives rooms of even proportion
- observing the detail closely: does a garden plan allow for height and spread of plants within it? Is the chocolate torte set and the pastry crisp?
- being more reflective: whether the customer is likely to get a sense of satisfaction from an email correspondence; whether the tax return makes the most efficient claim for tax relief.

Teachers have great power to show the value of drafting: 'Students need to know from the outset that quality means rethinking, reworking, and polishing. They need to feel that they will be celebrated, not ridiculed, for going back to the drawing board' (Berger, 2003, p. 90).

Teachers can provide their own example, and give drafting high status in the classroom or workshop.

Consider risk

In creating a product worthy of the craftsmanship label, there needs to be some level of risk involved that cannot be obtained from an automated process. Related to work-in-progress is the notion that each element of a production process is important. David Pye's concept of a 'workmanship of risk', when contrasted with his 'workmanship of certainty' is of relevance here: 'The phrase "workmanship of risk" means that at any moment, whether through inattention, or inexperience, or accident, the workman is liable to ruin the job' (1995, p. 9).

This is to say that wherever craftsmanship is important, there has to be an element of risk and skill at play. In developing craftsmanlike dispositions, learners need to be exposed to increasing levels of risk.

Elements in a process carry with them varying levels of risk. Naturally, the nearer to the finished product we get, the higher the cost of error. Jean Lave and Etienne Wenger (1991) illustrate this in their study of Vai and Gola tailors. As apprentices become more competent, they are allowed to move from low-risk, early stage processes (like cutting cloth), to higher-risk processes, such as those involved in finishing off a product.

The risk involved is to do with wastage of time, not just materials; the further along the process, the more time has been invested by other experts. Teachers need to find ways of facilitating learners to experience risk-taking, while also minimising implications of error.

Policies

One of the ways in which culture is communicated most clearly is through policies. Policies that might most influence the valuing, or the undermining, of craftsmanship are likely to be focused on assessment. These influence what teachers teach and what learners pick up on as being important. Leaders of training organisations might consider assessment policies and practices and ask questions like:

- To what degree is there a balance between reward for effort and for end product?
- Is there sufficient formative assessment focused on craftsmanlike dispositions?
- Is 'craftsmanship' explicitly codified into assessment frameworks at each level of progression?
- Does summative assessment complement formative assessment?
- Does reporting give sufficient prominence to craftsmanship?
- Are rewards or other incentives dependent upon craftsmanship?
- Are learners engaged in the assessment process?

Ron Berger (2014) makes the case for 'student-engaged assessment' which

> *Changes the primary role of assessment from evaluating and ranking students to motivating them to learn. It builds the independence, critical thinking skills, perseverance, and self-reflective understanding students need for college and careers.* (p. 5)

In student-engaged assessment, pedagogical interventions are planned to help ensure that:

- targets are rigorous
- students are checked for understanding regularly
- assessment data is used explicitly with learners
- teachers critique, model and give feedback
- learning – and the process of learning – is celebrated; final products are viewed, but so are drafts
- grading is 'standards-based'.

The distinction between standards-based and traditional grading is shown in Table 4.

TRADITIONAL GRADING	STANDARDS-BASED GRADING
Final grades are an average of performance, effort, extended task completion and other criteria developed by the teacher. As a result, what final grades communicate might be unclear and will likely vary from teacher to teacher.	Final grades describe a student's progress toward specific course standards (or learning targets). The specificity enables students to identify strengths and areas for improvement clearly.
A certain average (eg 70 per cent) is required to pass a class and receive credit. Students may not have mastered a large portion of the material but will still receive credit.	To receive credit, students must meet criteria for each and every standard of work unit within a programme.
Grades are viewed as rewards or punishments for overall college performance.	Grades are viewed as a tool for communicating student progress toward specific course standards (or learning targets).
Work habits, such as extended work completion or on-task behaviour, are averaged in with course grades. This practice can raise or lower grades without clarity as to why.	Habits of work are reported and graded separately and are evidence- and skill-based. They are viewed as equally important as technical grades.
Grading is something done by teachers to students and is generally not well understood by students.	Students play an active role in understanding learning targets, tracking their progress, identifying next steps and communicating their progress.

TABLE 4 Assessing for understanding (based on Ron Berger's 'A tale of two grading paradigms')

Change your own approach ('reframing')

While institution-wide change will have the biggest impact, FE teachers can make significant changes too. Of course, they will need support if they are to settle for nothing less than excellence: what is re-work to one, may be waste to another.

Anyone can talk about the importance of craftsmanship, but as we have seen from our two case studies, excellence must come first from the teacher. So what can teachers, who may not see themselves as craftspeople, do?

First, it is an attitude change and a 'reframing' of their approach to learning:

- Settle for nothing less than excellence.
- Believe in your own ability to get better through practice.
- Believe that your students are capable of excellence.

Second, it is a process of continual improvement and a commitment to develop one's own craft:

- Attend refresher courses for the skills you do have and improve or update your skills.
- Learn something new and expand your repertoire.
- Develop whatever links you have with industry and make new ones.

WHAT'S IN A NAME?

The world of manual work is loaded with gendered terms. Think of 'foreman', 'man-made', 'manpower' and 'manhours'. We'd love to find a gender-neutral term for craftsman. The British Sociological Association's guidelines (2004) for challenging gendered language that reinforces sexist beliefs and prejudices with respect to 'craftsman' is that it be replaced with 'craftsperson' or 'craftspeople'.

While this is an honourable attempt, this break from tradition is perhaps unlikely to be adopted widely as it lacks the authoritative ring of the traditional word. In trying to level the playing field, gender-neutral or even feminine terms ('craftswoman') can be seen as subordinate to the original term and not all women wish to use them. An example of this is 'chairman' (of a meeting or organisation), where women may choose to use the term 'chair' rather than 'chairwoman' or the more clunky 'chairperson', or even stick with 'chairman'.

Through various forums on the Web, a number of terms have been debated. While new ideas are put forward, the most common view seems to be that none are suitable alternatives to 'craftsman'.

In trying to break away from the stereotypical image of the craftsman, it is possible that something is lost. As a word, its meaning has been reinforced over hundreds of years. It holds connotations of the exclusive craft guilds, of master craftsmen and long, painstaking apprenticeships. It invokes a level of prestige that new and invented terms cannot hope to contain.

'Crafter' for example, does not carry the weight of a label for someone serious and passionate about their craft. Even 'craft' is heavy with connotations. As David Gauntlett observes in *Making is Connecting* (2011, p. 22), for some, it might bring to mind 'the careful work of a woodcarver or a ceramicist, a skilled practice of making beautiful objects'. For others, it might be associated with 'traditional and rather twee items which you might have seen on sale at craft fairs in church halls – corn dollies and doilies at surprisingly high prices'. Sir Bill Moorcroft adds that, unlike in Germany, where 'craftwork' has positive connotations, in the English language 'craft' carries baggage: 'crafty' is negative; 'arts and crafts' are associated.

'Technician' does not encompass all aspects of craftsmanship. 'Artisan', while perhaps overused (particularly for food products at farmers' markets) may hold a sense of elitism that 'craftsman' does not suffer from. Indeed, 'craftsman' is happily adopted by both blue-collar workers and those who identify themselves as being educated beyond this level.

'Craftsmith' is another suggestion, although 'smith' is still associated historically with men in overalls. Not only this, 'craftsmanship' rolls off the tongue; 'craftsmithship' not so much. The same can be said for 'craftswomanship'.

'Man' is not gender-neutral, and yet in common usage it can denote inclusion of females as well as males: 'mankind' refers to both. The English language is rich and has archaic connotations that do not necessarily represent current thinking. Craftsmanship may be one such example.

A good definition of craftsmanship comes from David Pye, who prefers to use the phrase 'workmanship of risk', which he sees as a more accurate descriptor:

> *… [craftsmanship] means simply workmanship using any kind of technique or apparatus, in which the quality of the result is not predetermined, but depends on the judgment, dexterity and care which the maker exercises as he works. The essential idea is that the quality of the result is continually at risk during the process of making …* (1995, p. 20)

'Workmanship of risk' is contrasted with 'workmanship of certainty' and this nuanced distinction helps separate out how quality work can be produced in two ways. He says that the distinction 'turns on the question: Is the result predetermined and unalterable once production begins?' (1995, p. 22).

Sir Bill Moorcroft brought up an interesting point: that a qualified medic may become, essentially, an apprentice surgeon developing their craft skills. They are in this sense like a craftsman of any other skill of old. Once, both were regarded with parity of esteem. But what is interesting is that neither the surgeon nor the beauty therapist, both fully apprenticed in their skill area, are referred to as 'craftsmen'. This cannot be about the vocations being the product of modern times, for there have always been surgeons. Might it be that both deal with people as their 'material', and 'people' prefer to think they are being handled with more precision and science than the word 'craft' might invoke? People don't like to think of themselves as being, in the words of David Pye, 'continually at risk during the process'.

For now, when we talk about what we want to achieve from practical and vocational education, we stick with the familiar 'craftsmanship', which signifies unequivocally an aspiration to excellence, and pride in a job – any job – well done.

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