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In the UK the creative economy is worth an estimated 85-90 billion pounds a year, a figure likely to grow in 2018-19. Despite this, recent higher education debates and the compulsory move towards EBacc subjects in STEM have focussed around the direct economic return of certain economic options that reflect a less diverse general and higher education system and a miss match of pupil’s attributes and their education potential and a readiness to withstand increased automation within the workplace. (Last, J. 2017) Should there be a concerted effort towards STEAM and ADaM (Art Design and Media) and if so how can creative activities such as drawing critical within design be useful not just as an arts based subject but assume parity with STEM and core, student’s lifelong learning and the nation’s economy in the 21st century increasingly dominated by new technologies such as VR and AR?

Abstract: Drawing as Discovery – Nurturing creativity in the classroom, broadening participation in the arts and feeding the economy.

Drawing is ‘reflective practice’, or an action orientated process that enables the invisible to become visible, a sense making activity (McNiff, 2002) comparable to teaching and learning in theory. The activity might also be viewed as a productive organisational path towards learning, (Popper, 2002) encouraging constructive questioning and experimentation via a process of technical know-how, outside of one’s comfort zone. The student engaged in drawing, could be categorised as the ‘reflective practitioner’, (Schön, 1984) an expression which greatly characterises powerful approaches in teaching and learning.

“I can’t draw?” is a common expression and one I find alien, my mind ignites with excitement and possibility when I draw, as if seeing the world again for the first time. I believe if you can write then you could draw and transform your life by doing so. Creative disciplines like core subjects such as maths and English are a universal activity, so why, are more of us not drawing and how useful might this be in support of core subjects and STEM (Science, Technology, Engineering and Maths) (Bertram, 2014) not just in the art and design classroom but within teaching and learning generally and what undiscovered opportunities might this create for both the developing individual and their discontinuous career opportunities and a post Brexit service sector economy?

Humanist debates in education today centre on the student. Sir Ken Robinson states “Education (today) dislocates people from their natural talents, buried deep; you have to create circumstances where they show themselves.” And “It was created this way so people got the information they needed to get jobs (back then the arts did not get you a job). That is no longer the case – creativity should now be held in a higher respect”. (Robinson, 2010)

Drawing is considered by many as a niche pastoral activity, associated with natural talent alone, outside of the rigour of core subjects, potentially limiting opportunity for the individual. UCL Scientist Rebecca Chamberlain states “Most people probably don’t become proficient because they don’t practise enough, put off by early failure – “It doesn’t look anything like it”. (Chamberlain, 2011). There is little doubt in my mind that drawing, is a physical activity promoted by the way in which our minds reach out into the external domain in order to intellectually disseminate, interpret and express the world, all advanced critical academic activities stimulated by our common ability to visually interpret the world. (Eviston, 2013)

Opportunity to discuss something about the practical nature of drawing, how it relates to the broader and specialist curriculum and as a consequence made practical in respect of pedagogy, stimulating enquiry and meaning (Pringle, 2009) should be considered in order that academic achievement and methods of discovery may occur as a process of investigation. (Schön, 1984)

Drawing can be complex, experimental, experiential and very context specific. It could also be considered useful, the first mark we make is rarely correct; by drawing lightly we can refine and make our intentions clearer over time. (Strauss, 2013) This takes practice and there is little shame in this. For the developing student transitioning from novice to expert, this approach when experienced might be considered useful in any discipline where a temporal continually refining process of ‘productive failure’ (Shahn, 1992) might be considered counter to a traditional pedagogical approach. (Eviston, 2013) Such an approach requires experimentation, a degree of personal risk, to do the activity, or as ‘knowing in action’. (Schon, 1984) Drawing habituates this process achieving an ‘imaginative outcome’ centred on a creative learning process an approach craved by a more flexible labour market and the rapidly growing creative industries. (Eviston, 2013) These values are directly aligned with theories of pedagogy that embrace the students ‘own experience’ as reflective practitioner, and researcher (Schon, 1984) instigating a learning experience that resembles practice. This is intrinsic to the application of knowledge and the interpretation and adoption of practice, media and technique. (Piaget, 1962) There are also issues of varying memorial function (Brew, A, C. 2015) characterised by a ‘just in time strategy’ (Tchalenko, 2009) that relates to specific pedagogy and a student’s willingness to look and study in detail in order that concepts can not only be fully understood in the mind (Ruskin, J. 1858) but form future long term motor plans in the mind and hand which might foster new creative opportunities. (Tchalenko, 2014) This raises some interesting and very relevant pedagogic issues as to how we meet the complete needs of a young person’s creative intelligence in education, how well this subject is correctly understood in respect of both brain function, neuroplasticity, and individual practice within communities and the diverse future economic opportunities that might be presented to a narrowing STEM agenda that infers GDP growth and employment rates are the primary measure of success over and above culture and creativity. (Leighton, S. Mitchell, P. 2015)

Arguments for a widespread form of visual literacy or a ‘grammar of vision’ (Hoffman, 2000) introduced into broader education so that it might have equal status to STEM and core subjects, might be related to the way in which we record and make sense of the world during our early development.

The developing child is very inclined towards semiology since signs, symbols and letters, promoting an ‘active form of perception’, becomes mapped onto one’s own developing perceptions and actions. (Piaget, 1962) Piaget characterises a “triadic” occurrence, composed of ‘(i) self-initiated mimetic gesture, (ii) its intended meaning and (iii) the receiver of the intended meaning,’ or ‘symbolic play’. The drawn sign becomes meaningful to oneself, or a ‘correct understanding’ of how the sign might be expressed. This is the beginning of meaningful expression, of proto-language in which the use of symbols become profound, (Saussure, 1983) promoting ‘semiotic systematicity’ the ability for a developing child to make meaningful connections between signs in order to promote and develop public language. Drawing continues this theme, promoting shapes and symbols that oppose each other like pattern in play, i.e. a chess board composed of pieces creating new meaning. (Saussure, 1983) The first marks are profound, useful concepts until giving way to complex texture and rendering.

During early development we learn to differentiate between the ‘signifier’ and the ‘signified’ ie: the ‘mental construct’ and the ‘model’ and create conception between the two. (Langer 1953). Public language although remarkably economic and ready to hand may not always be sufficient in order to fully revaluate materiality and our emotional response. Conversely the image is mute and language must be used in order to articulate a response. (Saussure, 1983) It is the interplay of these behaviours particularly in education and specifically in my specialist field of visual communication that this interplay interests me in respect of teaching and learning. For example semiology, analogy and simile (Bell, 2014) and contested theory’s such as Visual Thinking Strategy (Yenawine, 2014) are increasingly becoming recognised as powerful ways of relating complex ideas in education by using common language, creating a bridge between the simple and complex, mirroring humanistic approaches across all school disciplines, inviting students to provide evidence, share ideas and significantly raise critical thinking.

Collaboration of subject technique between teachers must take place if students are to truly benefit from an integrated breadth of educational experience, a policy which is universally failing to occur as evidenced by the Ofsted report entitled ‘Making a Mark: Art, Craft and Design’, (Ofsted, 2011) which noted the following, ‘‘Children’s ability to appreciate and interpret what they observe, communicate what they think and feel, or make what they imagine and invent, is influenced by the quality of their art, craft and design education.” (Humphry’s, 2011). The report noted this of particular concern in secondary education, stating, “Drawing can no longer remain a concern without a cause”. Clearly there is not enough provision for this subject and that too few teachers understand the profound significance of drawing and experimenting with media as an opportunity for building academic confidence.

A recent UK survey of 2000 educators and 4000 parents undertaken by Adobe Systems (AdobeUK, 2013) also revealed the following: 67% of teachers believe creativity is vital to education, yet feel the current curriculum is hindering their ability to foster this. 68% believe a transformation must occur across the sector in the way in which it works in relation to creativity and that 69% would like to see better training of specialist disciplines and use of technology in order that this might happen, an issue further frustrated by the fact that number of students opting to study Design and Technology at GCSE fell by 42 per cent from 2010 to 2017 according to the JCQ. Joint Council for Qualifications)

Although notions of drawing ability and its usefulness in education are imprecise there has been some recent research suggesting that the action of drawing is not a gift, and greatly unrepresented as a useful and applied skill for learning. (Chamberlain, R. 2011)

The article ‘Thinking Through Drawing’ (Columbia University, 2011) introduced artists, cognitive scientists and art educators to consider the relationships between drawing and cognition, citing references by Theron Cain (1943) who discovered that students drawing geometric shapes performed better in schools and that Cohen and Bennett (1997) followed a similar enquiry, stating acts of drawing increased motor skill. The conference concluded the following “that drawing leads to domain-general perceptual enhancement, further characterising the mechanisms by which perceptual and memorial functioning come to be associated with drawing ability.”

There is something specific about the geometric characteristics and spatial quality of drawing, that has a significant impact on our ability to conceptualise, (Liben, Müeller, 2015) bridging meaning in order to develop more advanced concepts and ideas. If one accepts that drawing letters and hieroglyphs is profoundly useful then why is this discipline not extended further into a broader system of drawing, as a tool for discovery and research in a more prescribed way supporting core subjects from early primary through to year twelve? There are common parallels with modern core standards being potentially overlooked relating to ‘process’, access points and breadth of experience, analytical practice and a sense of equity, which attest to a global workforce and an insecure economic future. (Riley, 2012) One might argue that there is no such thing as a ‘bad drawing’, only that an intellectual thought has been preserved and made useful by its action, (Sawyer, 2003) each mark a step in the learning process.

In the FE graphic design classroom I have observed the following; roughly a third of students across six individual learning design groups at degree level, across HE and FE, can draw with sufficient confidence to promote conceptual ideas. The remaining majority either struggle with drawing or try to avoid doing so completely, strange when the QAA benchmark clearly states that drawing is a fundamental discipline of the specialism. (QAA, 2008) This creates a divided classroom that should not exist, frustrating an already complex, very evaluative assessment process. By encouraging students to accept drawing as an essential learnable skill, I have witnessed students building new confidence, increase their research and respect for ideas and greater ownership for their own academic learning.

I believe it is critical that design students can respond to this activity in a precise and consistent fashion. I have noted that students who lack drawing confidence invariably have less confidence when toying with and sharing ideas between peers and tutors, all too often resorting to less personal, preconceived concepts from elsewhere. It is important that ideas are respected at every stage of development in order that the student can work through a process guided by a continued cycle of ‘experiential and reflective learning’. (Kolb, 1984) Drawing style is not necessarily relevant here, only that design production is effectively supported by a process of drawing, which can be communicated, controlled and understood when finally assessed.

I have also noted a tendency for students to rely too heavily on the use of IT in the classroom which I believe is partly responsible for the falling adoption of certain critical skills, such as drawing being necessary for creative independence and appropriating original ideas. It seems perverse that the synthetic nature of computer software is continually evolving towards a more organic tactile approach just out of reach of the practical opportunity afforded by traditional approaches.

There need not be inconsistency between adopting the new, particularly in light of immerging technologies such as virtual reality and augmentation, while learning from the good practice of what has come before. For example if students are becoming increasingly dependent on IT, why are they not being encouraged to use digital drawing tools and creative VR spaces that inspire an organic approach? This aligns with comments made by Sir Michael Wilshaw, chief inspector of schools who stated ‘that further education students are not being well served’, arguing that it is “a dysfunctional system, woefully out of step with industries trends”. (Medhat, 2014)

I believe that a collective history of limited educational experience has easily dismissed the significance of certain creative activities forming a structure of present lost opportunity. It is entirely possible to make a living as a designer with a shallow development of drawing skill, only to ascend so far. (Bass, 2010) For the developing design student, drawing then is a core activity which respects the concept or idea, encouraging a powerful system of discovery, enabling common organisational controls of ‘transmissive pedagogy’. (Friere, 1996)

Core and STEM subjects greatly benefit from formative assessment techniques, encouraging broader sense making and reasoning skills also required by subjects such as drawing in order to reach specific learning targets, a transformative process that guides teacher and student together. (Avis, Fisher, Thompson, 2011) This requires a form of self-reflection which is clearly evident in creative practice. A comparable meme might state ‘what do we wish to build, ‘cooks or chefs’’. One might argue that creativity provides ‘the cook’ to become ‘a chef’ by giving them the opportunity to make choices rather than simply following a recipe. (Riley, 2012) Similarly by integrating the arts into core subjects we might see a more creative response that can effectively result in a classroom managed by a ‘rich process’ of experience that meets the common core, met by qualified teachers and student’s potential discontinuous careers. (Riley, 2012) This debate could and should move away from practical issues around STEM, core subjects and steer towards a collaborative approach which recognises the very visual and organic way in which our brains become excited and work. While new technology and science might provide more complete ways of rebuilding the world this is only useful so long as we can record and maintain multiple ideas of creative intelligence that might weave together by broadening student’s horizons, giving them access to a range of subjects in order to create finished products and new intellectual property. (A’Bear, 2013)

Abandoning deeply rooted notions as to the usefulness of creative activities practiced in a traditional and robust British arts education system, emulated and admired around the world, can only continue by ensuring that creative disciplines and core subjects are respected and taught in equal measure to core, requiring collaboration, research and intentional integration, a hybrid process that invests in pupils breadth of experience across the sector ensuring students and adult learners work prospectively towards new ‘common core standards’, nurturing creativity and expanding academic and economic potential. Art and design subjects like drawing are very experiential in nature, encouraged by a spiral curricula. (Bruner, 1963) One may reflect on this experience in order to deliver ‘discovery learning’. (Bruner, 1963) This experience can be very useful not just for students of design but for all, in respect of core subjects and STEM supporting opportunities for creative resilience and understanding the value of learning through risk taking, trial and error which typically places final product and data against ‘experiential learning’ and a reflective approach.

Reference and Bibliography

[BOOKS]

Avis, J. Fisher, R. Thompson R. (2011). Teaching in Lifelong Learning. (2nd ed). Glasgow. Bell and Bain Ltd.

Bruner, J. (1963). The Process of Education. Cambridge Massachusetts. Harvard University Press.

Friere, P. (1996). Pedagogy of the oppressed. (2nd ed.). London. Penguin Books.

Hoffman, Donald, D. (2002). Visual Intelligence. How we create what we see. W. W. Norton and Co. New York.

Kolb, D, A. (1984). Experiential Learning: Experience as the Source of Learning. Englewood Cliffs, New Jersey. Prentice Hall.

Langer, S. K. (1953). Introduction To Symbolic Logic. New York. Dover.

Liben, S, L. Müeller, U. (2015). Handbook of Child Psychology and Developmental Science. (7th ed.). New Jersey. John Wiley and Sons.

McNiff, J. (2002). Action research: principles and practice. (2nd ed). London. Routledge Falmer.

Piaget, J. (1962). Play, dreams and imitation in childhood. New York: Norton.

Popper, K. (Ed.) (2002). Logic of Scientific Discovery. (2nd ed.). London. Routledge.

Ruskin J. (1858/1971) The Elements of Drawing. New York: Dover Publications

Saussure, F, D. (1983). Course in General Linguistics. (16th ed). Illinois, Carus Publishing.

Sawyer, K. (2003). Creativity and Development (Counterpoints: Cognition, Memory, and Language). Oxford. Oxford University Press.

Schön, D, A. (1984). The Reflective Practitioner. How Professionals Think in Action. Basic Books. New York.

Shahn, B. (2012). The Shape of Content. Cambridge, MA. Harvard University Press.

Strauss M, J. (2013). The Mind at Hand: What Drawing Reveals. Florida. Brown Walker Press.

Tchalenko J. (2007) Eye movements in drawing simple lines. Perception, vol. 36

Yenawine, P. (2013). Visual Thinking Strategies: Using Art to Deepen Learning across School Disciplines. Cambridge, MA. Harvard Education Press.

[ONLINE]

Retrieved from  
http://www.huffingtonpost.co.uk/mark-aabear/creativity-in-education-a\_b\_4156960.html?  
A’Bear, M. (2013). Creativity in Education: Are we doing enough to Support Young People?

Retrieved from  
http://blogs.adobe.com/uk/2013/09/12/state-of-creativity-in-education-teachers-call-for-an-overhaul-of-creative-education-across-the-curriculum/  
AdobeUK. (2013). State of Creativity in Education. Teachers Call for an Overhaul of Creative Education across the Curriculum.

Retrieved from  
<http://www.openculture.com/2013/01/saul_bass_advice_for_designers.html>  
Bass, S. (2010). Saul Bass- Advice to Design Students.

Retrieved from  
http://www.educationevidence.com/  
Bell, M. (2014). Evidence Based Teaching: How Brains Learn.

Retrieved from  
<http://www.huffingtonpost.com/vince-bertram/stem-of-steam-were-missin_b_5031895.html>  
Bertram, V. (2014). STEM or STEAM? We're Missing the Point.

Retrieved from  
<http://www.ucl.ac.uk/medical-education/publications/Reprints2012/2012-ChamberlainRileyEtAl-PerceptualFoundationsOfDrawing-Columbia.pdf>  
Chamberlain, R. (2011). The Perceptual Foundations of Drawing Ability.

Retrieved from  
<https://www.youtube.com/watch?v=MV0Iob65Nq4>  
Eviston, B. (2013). How Learning to Draw Has Taught Me How to Live: Brent Eviston at TEDxEureka.

Retrieved from  
<https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/413328/Making_a_mark_-_art_craft_and_design_education_2008-11.doc>  
Humphry’s, J. (2011).

Retrieved from  
<http://ttd2011.pressible.org/files/2012/05/Thinking-through-Drawing_Practice-into-Knowledge.pdf>  
Columbia University. (2011). Thinking Through Drawing: Practice into Knowledge.

Retrieved from  
<http://www.hepi.ac.uk/wp-content/uploads/2017/09/A-crisis-in-the-creative-arts-in-the-UK-EMBARGOED-UNTIL-7th-SEPTEMBER-2017.pdf>  
Last, J. (2017) A crisis in creative arts in the UK?

Retrieved from  
<http://www.theguardian.com/education/2014/sep/28/college-courses-careers-advice-youth-unemployment>  
Medhat, S. (2014). Colleges must stop delivering irrelevant courses with poor careers advice.

Retrieved from  
<http://www.tate.org.uk/research/publications/tate-papers/artist-educator-examining-relationships-between-art-practice-and>  
Pringle, E. (2009). The Artist as Educator: Examining Relationships between Art Practice and Pedagogy in the Gallery Context.  
Riley, S. (2012). Use Arts Integration to Enhance Common Core.

Retrieved from  
<http://www.qaa.ac.uk/en/Publications/Documents/Subject-benchmark-statement---Art-and-design-.pdf>  
QAA. (2008). Subject benchmark statement - Art and design.

Retrieved from  
<http://www.ted.com/talks/sir_ken_robinson_bring_on_the_revolution/transcript?language=en>  
Robinson, K. (2010). Bring on the Revolution.