

Dyspraxia in the workshop: an exploratory qualitative study (work in progress)

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Abstract

Dyspraxia is a developmental coordination learning disorder. Little is known about how dyspraxia influences artists and craft practitioners. This research explores the impact dyspraxia has on applied artists, specifically those working with materiality, and their craft practices. Silversmithing, textiles and ceramics involve complex skills and the organisation of combinations of processes, tools and physical approaches so therefore it is particularly interesting to study dyspraxia within applied arts. The research is a qualitative study, carried out in the form of in depth case studies. It comprises of an autoethnographic case study along side six case studies with adult craft practitioners with a formal diagnosis of dyspraxia. Participants are Silversmithing, Textiles and Ceramic MA students at the Royal College of Art. Ages range from 25-65 across both sexes and world nationalities. Case studies are conducted with attention to detail and a holistic approach to the individual's life history together with exploring how dyspraxic traits and abilities have had an impact on their craft practices. Early findings suggest that motor difficulties such as the regulation and sustaining of grip pressure, tool accuracy, body awareness and posture control may lead to difficulty with some workshop practices and a choice to use machine processes when complete accuracy is required. Additional difficulties with executive function can result in over compensatory or avoidance coping mechanisms that have been reported by participants as potentially counter-productive to their overall creative process. The research also investigates the role of making as a method of thinking; a way to manage executive function otherwise difficult to access. Such functions include working memory and the processing and organization of information in a healthy way. As most participants were diagnosed at post graduate level, some innovative self-developed coping strategies have facilitated great professional success by using their neurological divergence to their advantage. Investigating these innovations and strategies may offer vital information on alternative approaches for conquering difficulties that effect adults with dyspraxia, and utilising potential aptitude. This research, which is a work in progress, will contribute to knowledge of dyspraxia and provide insight into it's bearing on the applied arts. It can also be applied to dyspraxia in adulthood in general, helping to identify which dyspraxia traits are continuing to effect functionality into adult life and when perceptual differences may be advantageous in craft practices. I hope that the research will provide more data to contribute to advancements in supporting children and adults with dyspraxia, especially but not solely in art and design. I am approaching this research from the perspective of a professional silversmith with dyspraxia.

Background: Dyspraxia is a form of Developmental Coordination Disorder (DCD). The Dyspraxia Foundation UK describes dyspraxia as,

A common disorder affecting fine and/or gross motor coordination in children and adults. It may also affect speech... there may be a range of co-occurring difficulties... these include social and emotional difficulties as well as problems with time management, planning, personal organisation, and these may also affect an adult's education or employment experiences. Many people with DCD also experience difficulties with memory, perception and processing. (Dyspraxia Foundation, 2017)

Little is known about how dyspraxia influences artists and craft practitioners working with their hands. This research explores the impact dyspraxia has on applied artists, specifically those working with materiality: metal, textiles and ceramics. Craft practices involve complex skills and the organisation of combinations of processes, tools and physical approaches. Motor function and executive function¹ are both required, so it is particularly interesting to study lived experiences of dyspraxia in this form of art practice.

Method: The research is a qualitative study, carried out in the form of in-depth case studies. It comprises of an autoethnographic case study alongside six case studies with adult participants with dyspraxia. This methodology was chosen because it, 'offers nuanced, complex, and specific knowledge about particular lives, experiences and relationships... human intentions, motivations, emotions and actions' (Adams et al. 2015, p21). With this methodology in mind I have not set out to search for specific themes, rather allowing themes to emerge out of the experiences of the participants. Themes that have emerged are those surrounding relationships, confidence, processing differences, and spatial environments. Two participants are silversmiths and jewellers, Jude and Anna, the two textiles artists are Lila and Kelly and the two ceramicists are Lucy and Holly. All are doing Masters degrees at the Royal College of Art (RCA), together with myself, a silversmith doing my PhD at the RCA. Except for Lila, the Dyslexia Assessment and Consultancy in London diagnosed all participants. Lila was assessed while doing her BA at Manchester University.

Observation, movement, literacy and processing tests were used to form a diagnosis.

Jude is in her early twenties, the youngest participant, being the only one to have gone straight through the education system to MA level to study jewellery and metal. Prior to joining the RCA, Jude completed a BA at Central St Martins. She attended boarding school from a young age, and found the experience traumatic. She attributes adult anxieties to the undiagnosed dyspraxia, feeling that this drew negative attention in such an intensely competitive environment. She was diagnosed with dyspraxia, with no co-occurring specific learning difficulties, while at the Royal College of Art.

Anna is the second jewellery and silversmithing participant. Born in Beijing, China Anna lived there until coming to England for her BA. She originally trained in computer science and worked with a high-end car company. She found the work boring and was eventually let go because she fell asleep at the desk. As a result of this employment experience she acknowledges that she is much happier in a small workshop environment rather than in a large open plan office space. She was diagnosed with dyspraxia, with no co-occurring specific learning difficulties (SLD), while at the Royal College of Art.

Lucy is a ceramics participant. She is in her sixties and has had a highly successful career in the fashion industry. She created a popular high street chain and was responsible for launching a number of prolific fashion designers. After selling her company she became creative director of one of London's most high-profile department stores. She suffered a brain lesion, which was operated on; leaving one side of her face paralysed

and affecting her hearing. Through physical therapy she regained some of the movement in her face. Prior to joining the RCA for her MA she did a diploma in ceramics at the City Literary Institute in London where her exhibition work was very well received. She was diagnosed with dyspraxia, with no co-occurring specific learning difficulties, while at the Royal College of Art. Her medical history was taken into consideration during the assessment, and upon completion of her MA she received the prestigious Young Masters Art Prize.

Holly is the second ceramicist participant; she has been a practicing ceramicist for many years. She operates from her London studio and prior to starting the MA at the RCA, her ceramics were stocked in high profile shops such as Liberty and Skandium. Additional to her business, she was a university lecturer. She has a twin brother who had more obvious difficulty at school. Both twins needed back surgery in their twenties. Holly was diagnosed with dyspraxia, with no co-occurring specific learning difficulties, while at the Royal College of Art.

Lila is a textiles artist who trained in theatre and specialises in paper creations. Her work is used frequently in editorials. She worked with embroidery and her final exhibition was heavily steeped in metaphor about her Armenian heritage. Lila was the only participant who was diagnosed with dyspraxia prior to joining the RCA. She sought diagnosis on her BA while at Manchester University. She is also the only participant beside myself, the author, who has co-occurring dyslexia.

Kelly is the second textiles artist, and focused on knitted textiles for her MA at the RCA. She is Scottish and moved to London for the MA. Her sister had more obvious learning difficulties growing up, which are currently still undiagnosed. Upon graduation, she took a research position at the RCA. She was diagnosed with dyspraxia, with no co-occurring specific learning difficulties, while at the RCA.

I, myself provide an autoethnographic case study. I went to a Froebel school, which afforded me many opportunities to develop my creative skills and allowed me the opportunity to learn in tangible ways. I received special help but I was not given an assessment or diagnosed with a specific learning difficulty. My elder sister is autistic with semantic pragmatic disorder. I trained at the London College of Fashion, working primarily with the English National Opera. I retrained at the London Metropolitan University (otherwise known as the Cass), as a silversmith and jeweller. I worked for an antique up-cycling company and a couture fashion jewellery company, where I later became a partner. I joined the RCA to do my PhD and sought diagnosis at that point. I was diagnosed with dyspraxia, mild dyslexia and visual stress.

Participants were chosen on a first come basis. Case studies are conducted with attention to detail and a holistic approach to the individual's life history, together with exploring how dyspraxic traits may have had an impact on their craft practices. All research material was then analysed using experiential thematic analysis. I chose this method of analysis because of the rich nature of the material.

Emerging themes: Early findings suggest that participants may struggle with motor difficulties such as the regulation and sustaining of grip pressure, tool accuracy, body awareness and posture control. Additional difficulties with executive function such as organisation and planning can result in over compensatory or avoidance coping mechanisms that the individuals felt can potentially be counter-productive to the creative process. However, some individual's self-developed coping strategies have facilitated great professional success by using the way that they think to their advantage. Space emerged as a primary concern for all participants. Working in large open plan studios where they had little control over interaction and distraction was recognised as very stressful.

Conclusion: The participants' self-developed strategies offer important information on alternative approaches

for conquering the difficulties that effect adults with dyspraxia, and utilising potential aptitude. Investigating their experiences casts light on the realities of a career in craft for someone with dyspraxia: for better or worse.

What this paper adds

This research, which is a work in progress, will contribute to knowledge of dyspraxia and provide insight into its bearing on the applied arts. It can also be applied to dyspraxia in adulthood in general, helping to identify which dyspraxic traits are continuing to effect functionality into adult life. This research provides more data to contribute to advancements in supporting children and adults with dyspraxia, especially but not solely in art and design. I am approaching this research from the perspective of a professional silversmith with dyspraxia.

1. Introduction

I am a professional costumier and silversmith, and when I joined the Royal College of Art to do my PhD I discovered that I was dyspraxic. Perplexed that I could be a successful craftsman while having this motor coordination difficulty, I searched around for research into dyspraxia and artists and found very little. Therefore, I shifted my research and I am currently conducting case studies at the RCA, investigating how dyspraxia impacts craft practitioners. Findings will contribute to further understanding of how dyspraxia affects adults, and in particular, adults who work with their hands professionally. Ranked the top university in the world for studying art, The Royal College of Art is a highly competitive, entirely postgraduate university. In order to gain a place, it should be noted that students would have gone through a screening process. As a result, participants are all intelligent, hard working and innovative; and all but one learned that they were dyspraxic after entering the RCA.

2. Materials and methods

This research is an autoethnographic study; a qualitative form of research whereby the researcher uses self-observation and reflective investigation as a method by which to understand and investigate a group to which they also belong. The research is comprised of detailed case studies. There are two ceramicists, two textile artists, two silversmiths and myself, also a silversmith. I found my participants primarily by sending an email call out to all the students working within the material disciplines. The Royal College of Art Ethics Committee reviewed my research proposal, together with information concerning interviews with participants, and issued ethics approval. Participants completed consent forms prior to taking part in the study, confirming that they were happy to be interviewed in their workplace. On-going consent was obtained from the participants prior to the interviews and at various stages throughout to ensure that they were happy with the procedure, and knew that they could withdraw at any point if not happy to continue. Pseudonyms are used for the students to protect their privacy.

I conducted my pilot case study with an open-ended approach. From the pilot, it became apparent that discussion was more fruitful than strict interview. The students are interested in someone else with dyspraxia, feeling more comfortable using myself as a sounding board for their own experiences. Case studies include audio-recorded interviews, film of working at the bench, film of participants setting up their bench at the start of term, photographs of work and bench space, dissertations, investigation of sketchbook use, portfolio discussion, discussion and photography of the final exhibition, drawing of their ideal bench exercise and the completion of The Adult Developmental Coordination Disorder/ Dyspraxia Checklist for Further and Higher Education (Kirby and Rosenblum, 2008). Not all of the students were comfortable sharing all areas of their

work, therefore not every participant took part in all of the above activities. The research was designed to allow the participants to feel relaxed and to open up about their work, school and higher education experiences, taking the time to consider where dyspraxia may have been an influence. This led to a rich understanding of each individual and their career development. Together, these case studies have common themes that can be analysed. I will use experiential thematic analysis to analyse all transcripts, and other collected materials to fully identify and explore common themes. I chose experiential thematic analysis because it ‘focuses on the participants standpoint – how they experience and make sense of the world’ (Braun and Clark, 2013: 175) given that this is an exploration of a neurodivergent population, this form of analysis is the most appropriate.

3. Flow and distraction

Our nervous system isn't capable of processing more than about 110 bits of information per second and in order to hear me and understand what I'm saying you need to process about 60 bits per second. That's why you can't hear more than two people. You can't understand more than two people talking to you. When you are really involved in this completely engaging process of creating something new as this man does he doesn't have enough attention left over to monitor how his body feels or his problems at home, he can't feel even that he's hungry or tired. His body disappears, his identity disappears from his consciousness; because he doesn't have enough attention, -none of us do- to really do well, something that requires a lot of concentration and at the same time to feel that he exists. Existence temporarily suspended. (Csikszentmihalyi, 2008)

The process of making engages the senses and the body and demands focus. Getting into the ‘flow’ of making has the effect of calming the mind. This is seen to be deeply enjoyable and even therapeutic, ‘making is therapy for me’ explained one textiles participant (Lila, 2017). Bench space is designed to be immersive; the silversmith’s bench peg, for example, provides a third hand for additional angles and approaches (fig. 1, here seen sitting on a standard chair). Normally the stool is very low so that the bench is at shoulder height and the eye is at the same level as the job being worked on. This promotes deep focus.

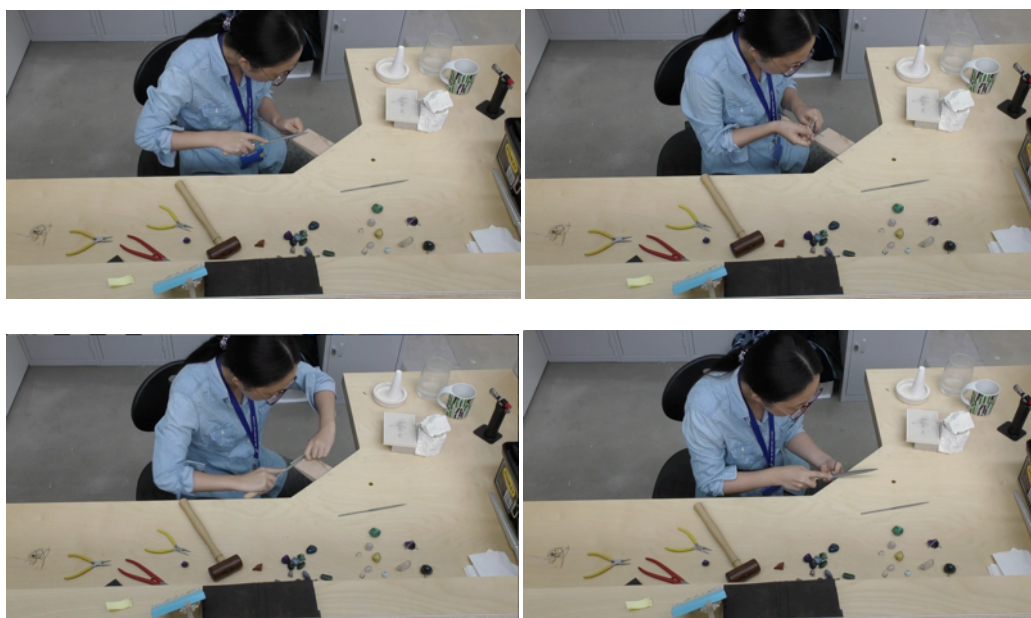


Fig. 1 A participants physical approaches to work using a bench peg

Whilst in the 'flow', the maker is no longer aware of outside stimuli because, as Csikszentmihalyi says, there is not enough attention left. Consider how this feels for someone who is hyper sensitive to their environment on a daily basis. For those who struggle to filter out sensory feedback, experiencing 'flow' provides immense relief. Reversely, however, too much distraction may not allow a student to get into that state in the first place. This is particularly relevant for makers with dyspraxia, for whom external conditions may play a big part in enabling or disabling this material interaction to take place.

The position of the bench has a significant impact on whether or not the participants are able to get into the flow of making. A corner space, with good even light, away from conversation is ideal. Benches in exposed places such as next to lunch tables, kettles, microwaves, photocopiers, in the middle of the room or next to hallways were reported as nearly impossible to concentrate on. The volume of a large open plan room, with between 25 and 60 students talking and working, can be seriously disruptive. Participants frequently reported retreating to work at home (essentially removing themselves from group participation) rather than struggle on at university. None of them attempted doing written work or their dissertations at their studio spaces. Students also commonly walled themselves in with physical partitions (fig. 2) or with storage (fig. 3) to create a quieter and more private environment.



Fig. 2 and 3 participants bench spaces walled in

4. Emerging themes

At this stage I have completed the case studies and prepared the transcripts, from which I have observed the points I am discussing in this paper, but this is a work in progress and I have yet to do the formal thematic analysis of the data.

4.1 Confidence

Participants felt that low self-confidence seems to have started at school, where comments from teachers or other students were taken to heart and continue to affect the individuals today. One participant told of her days sitting around the boarding school table where groups of girls tested her quick recall memory of current affairs in order to humiliate her. As an adult, this developed into an anxiety around dinner parties with her partner's intellectual friends. She chooses to remain silent rather than join in conversations in case she cannot remember the answer to a question quickly enough.

Participants reported frequently experiencing negative comments from school art teachers, for not conforming to traditional practices. Paradoxically the interest and ability to think outside the box is one of the keys to success in the art world, but at school level this was frowned upon or misunderstood. The ability to stay strong and persevere through criticism is a crucial characteristic that aids success in the art world. In these instances, these craftsmen rose above disapproval to become successful working professionals in the arts, but the impact of this negative influence remains in their lack of self-esteem accompanying any success that follows. As the interviewer, it was incredulous to hear highly successful and brilliant artists undermine themselves with put downs while describing their achievements (achievements viewed by the outside world as the very pinnacle of their profession). Discussing achievements was usually accompanied with self-doubt or uncertainty about how they managed to do it. 'I don't know how I made a success of my life... it's like fluke... luck' (Lucy 2017). Doing the assessment and learning about dyspraxia helped to put into context those childhood criticisms and go some way to lay them to rest.

4.2 Relationships

Personal relationships are another area that benefits from receiving a diagnosis. One participant noted how a situation, which would have previously resulted in an argument, is now brushed off because her partner knows she does not mean to make certain mistakes around the house. Reversely another student said that her friends get irritated with her phasing out during conversations, and she thinks that they should be more understanding of her because they know her and what she is like.

4.3 Problem solving and Rapid Concept Productionⁱⁱ

Rapid Concept Production is a term I have coined in order to describe the fast production of ideas, which the participants experience and exploit in their creative careers. I have not seen this term used anywhere, so for the time being, I am going to own it. Harnessed correctly with strategy, this is a powerful gift in the creative industries. All but one of the participants came to the MA straight from work, living off their craft practice. This involved teaching, running their business and making. Delegating and outsourcing parts of the business is a key factor in their success. One of the ceramicists explained that she didn't want to turn herself into a production line. Every time she reproduced a product it felt less and less exciting. Outsourcing production, she then felt free to run with the countless ideas she had and have energy for the business side. In the words of *another participant*,

I'm an 'ideas person' who is very dilettante...moving on, moving on, moving on... but I don't have the sitzfleisch – the sitting bones - to sit there and dot every I and cross every t. It bores me... I think that's why I was good in fashion. You just had to accumulate – use, accumulate – use, accumulate – use (Lucy, 2017)

The participants are excellent problem solvers. I did not ask to see assessment papersⁱⁱⁱ, but students voluntarily discussed that their performance in various three-dimensional reasoning tasks was very high, compared with very poor performances in memory and reading tasks. They noted enjoying these types of visual tasks.

A common theme within Rapid Concept Production is the feeling of thinking too fast. This feels manic at times and students said they benefit from the focus of a project. Deadlines and structured project work help the students to be highly productive and efficient. One student commented on how distracted and at a loose end she felt once her projects were over, to the point that she was pacing the room.

4.4 Accuracy vs. innovation

A few participants mentioned that they were aware they were making a procedural mistake but kept inadvertently repeating the mistake. This included leaning to one side while forging metal, or forgetting parts of a process, which consequently took more time to amend. More than one student noted difficulty learning new skills or feeling reluctant to take the time required to do so, consequently sticking to familiar methods.

The students are natural innovators. As children, this propensity for making work traditionally considered impossible or outside the box, as mentioned earlier, often resulted in off putting or negative feedback from school art teachers. They still feel affected by these comments, 'it never leaves you that she tried to put me off, but I managed to get back in' (Holly, 2017). Unorthodox education appears to be the norm with these students; there are elements of the self-taught, missing sections of traditional education, career changes and multi-discipline backgrounds.

4.5 Non-linear thought process and the sketchbook

The role of the sketchbook is traditionally to house and organise ideas and their development, but the dyspraxic students I worked with do not use sketchbooks in traditional ways. One student said that they are for the benefit of others, and felt obliged to go back and fill in consistency gaps for the purpose of transparent evidence-based assessment. It is therefore not to be seen as a literal portrayal of the design or thought process, and is not necessarily helpful for the students themselves. Sketchbooks are not a required part of assessment at postgraduate level, so this could be an inherited institutional convention, where sketchbooks are submitted as evidence of course work and linear design development (particularly prevalent at GCSE and A level). One student felt that she had 'fallen out of love with sketchbooks' (Kelly, 2017), and work began to accumulate in it as a folder, half the book's pages left unused (fig. 4).



Fig. 4 & 5 participants sketchbook and notice board

This proved a common situation amongst the participants. Some had given up on sketchbooks altogether and used a combination of diary, notice board and notebook to organise design work (fig. 5).

Schedules and diaries are seen as very important. One student had made a very detailed yearly planner (fig. 6), which incorporated everything she had to do for the year. It was noted that nearly all of the participants use Moleskine diaries (fig. 8, 9 and 10), explaining that they believe the layout seems clearer than other diaries, but more than that – they love them. Most of the students have been using them for as long as they can remember.



Fig. 6 participants schedule

4.6 The Moleskine

Let us take a look at the design of the Moleskine diary for a moment: a perfect minimal notebook design that has been popular with artists, such as Vincent van Gogh and Pablo Picasso, for hundreds of years.



Fig.7, 8 & 9 participants Moleskin diary, notebook and sketchbook



Fig. 10 Pablo Picasso's Moleskine diary (left) Vincent van Gogh's Moleskine (right)

The Moleskine consists of soft corners, cream paper, muted grey font and lines, a grid or a grid suggested with dots, and comfortable proportions. Proportions created in the time before the millimetre, when measurements were relatable to the human scale; a thumb for an inch. A Moleskine diary is soft and easy to grasp in one hand, giving a little as you squeeze it and small enough to feel you truly possess it. You can even fit some versions in your pocket. Holding it, you take ownership of all the dates and thoughts written inside – the physical representation of your time. Your little black anchor in time and space, the here and now marked with its ash-coloured ribbon bookmark and held tightly together with an elastic band to slide around it in a satisfying

snap. The Moleskine is a tactile object and working in one becomes a multi-sensory ritual. All of these participants had created a ritual surrounding organisation and scheduling which was very personal, had been self developed over time, and enabled them to stay on top of their very busy lives. An essential part of that ritual is making the information sensory and the moleskin is the perfect example of the power of a physical object to strengthen a person's concept of time and space.

4.7 Environment

A ceramic participant said 'There is a place for everything and everything has a place' (Lucy, 2017). The participants mentioned that their spaces can get messy, but of greater concern was that the space is reliable and things not be moved or altered. Part of the university schedule involves organising and removing the bench spaces over the summer. The majority of the participants noted that this was very stressful, as they then had to organise and tidy at the same time. From time to time, access to a separate space for the purposes of organising and laying things out in a particular order is helpful and allows for clarity of thought.



Fig. 11 and 12 participant's bench space and occasional bench space

In figures 11 and 12 you can see a ceramic participant using one bench to house all work and tools, with a separate space to execute a piece of work accurately. Physical space and headspace are inherently connected – physical separation is essential in order to concentrate. However, she did find it difficult to get used to the new space and new distraction and made a mistake, stating that that is what happens when she tries to be tidy - that it wouldn't have happened in her messy space because she knows where everything is. I believe this is because of the disruption to the ritual/habits of working, which makers develop in a familiar space. When makers know exactly where all tools are at any given moment, reaching for and using them becomes an unconscious action. Sometimes when working with materials, the difference between reaching for a tool and finding it within two seconds, or ten seconds, can make or break a piece of work.



Fig. 13 A participant's bench space in open plan studio

Art studios are often open-plan; the Royal College of Art studios are particularly big open plan studios (fig.13). This is proving to be a major difficulty for the students with dyspraxia. They feel very strongly about their workspace atmosphere. They want privacy, few visual distractions and limited human traffic. They don't want to be watched while they are working, as they feel inhibited by this and more likely to make mistakes. Open plan environments destroy all hope of achieving that. They are left to create manual distraction barriers of their own. All students wore earphones all the time. As mentioned earlier, one of the participants built screens around her bench for privacy; another boxed herself in with storage (fig 2 and 3). A bench in the wrong situation can be disruptive and detrimental to productivity. Open plan spaces result in far fewer spaces where focus can be achieved – if any.

4.8 Coping strategies

During the disability assessment, one of students said the assessor mentioned witnessing her applying a hundred coping strategies to compensate for her difficulties. She used her body and senses creatively as tool to aid her memory - externalising and transforming the information into something tangible. When bored during A-Level biology she would write up and down the page, backwards (in mirror), just to make it more interesting. As mentioned earlier, the students naturally visualise everything (thinking in image and pictorial form) – this not only helps with memory (Grant, 2017, p 98-111), but is an essential skill in craft practice. A number of the students referred to their assessment during interview, mentioning high scores on visual tasks, 'so in that I'm like in the top 2% of the country' (Jude, 2017), said one jeweller, referring to the block design test in her assessment. She then explained that in order to comprehend what she is reading she needs to 'read slowly and with a lot of expression as if I'm watching a play' (Jude, 2017).

Another participant, who has had a highly successful career in fashion, was able to delegate to others. She could then concentrate on being the 'idea person', allowing others to carry the ideas forward into production. This proved to be a very advantageous way of working for her.

The Chinese participant grew up in a culture of taking naps after lunch. She now understands her body and that she functions and concentrates best in the morning and worst after lunch when she struggles with fatigue. She tries to have a nap and then knows she is on excellent form for the rest of the day.

4.9 Medical history

Participants complained of a sore neck, back, hands, wrists and joints while working. One student mentioned how she would be working happily and then out of nowhere her hands would be really sore. Another student had back surgery in her twenties, another suffered a brain tumor, and another had eye surgery as a young child. Three of the students felt their difficulties were left unrecognised because their siblings had more profound learning difficulties. This was explained by parents to one student as, 'you're fine, he's less fine' (Holly, 2017) and to another as 'there's nothing wrong with you, it's your sister who has trouble at school' (Kelly, 2017). All the participants kept physically fit, one or two frequently wore sportswear and took health conscious food choices and lifestyle very seriously; recognising it as a major factor in their wellbeing and cognitive function.

4.10 Assessment and support

The students all felt empowered by diagnosis and hopeful that with new understanding they can improve their areas of struggle. Students come away from assessments feeling as though they have little to no knowledge of what dyspraxia is, how it affects them, and, most importantly, how to cope better. Part of their decision to undertake the research was in order to access reliable information. They feel disassociated from the term developmental coordination disorder; and do not identify with it because they feel it puts too much emphasis on physical coordination and not enough on cognitive difficulties. This finding is in parity with two studies on the perception of terminology, which were conducted at opposite sides of the hemisphere (Miyahara and Register, 2000, and Peters et al., 2008).

Art at higher education level is a multi-disciplinary practice. It involves academic critical analysis and historical contextual understanding, together with the design and production of material works. This must be understood in order to recognise what is demanded of a student in this field. These students did not go for assessments because of difficulty with their motor coordination; they sought help for their struggles with organisation, memory and keeping up with academic elements of their MA studies.

The majority of students did not apply for student disability allowance; either put off by the extent and complication of the form or having applied once, couldn't bring themselves to apply again the following year. Government-provided technologies such as Dragon Dictate and mind mapping software are often left redundant because they are too time consuming to learn to use while doing an intense course. The structure of the training is also seen as too stressful while studying. Participants want a deeper understanding of why they have these difficulties and want strategies to overcome them manually.

4.11 Quantitative data

Each participant was asked to complete the Adult DCD checklist (Kirby and Rosenblum, 2008). Outcomes (fig. 14) suggest fewer difficulties perceived or experienced with fine motor skills, compared with gross motor skills which are more significantly affected, along with executive function.

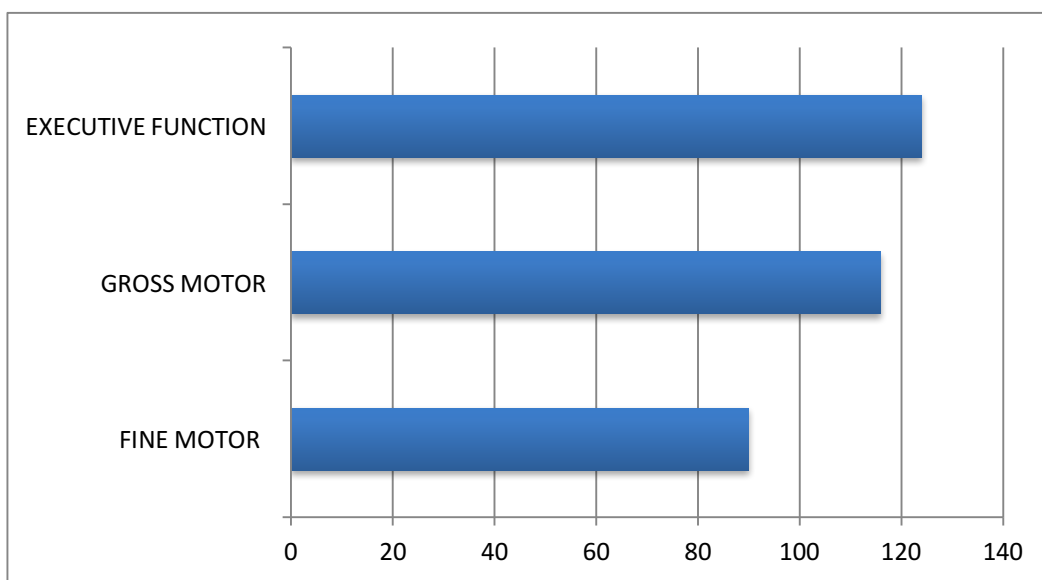


Fig. 14 Simplified graph of results (vertical y- difficulties experienced, horizontal x- total scores)

Verbal and visual strengths are recognised in all of the participants, showing great ease of movement between 3D and 2D work in order to problem solve. The students reported feeling most disrupted by struggles with memory, processing speed, organisation and distraction, in the words of one participant, ‘it’s a coordination difficulty in the mind’ (Lila, 2017). While the students have developed some coping strategies, these are the areas where they feel most at a disadvantage as adults.

5. Discussion

I have done the case studies and prepared the transcripts, from which I have observed the points I am discussing in this paper, but I have yet to do the formal thematic analysis of the data. This qualitative study investigates adult experiences of living with dyspraxia while studying and practicing as a craft professional, where using hands and employing creativity is key. While each individual had their own case history, common patterns were present.

5.1 Strengths and struggles

Struggles included fatigue, strain on relationships, anxiety over time pressures, anxiety about space and interruption, hesitance to learn new skills, frustrations with traditional documentation methods and sketchbooks, and low self-esteem in contrast to actual success. Stress was a major factor in their experience. Pain in hands and neck could be signs of over-compensating for motor difficulties by gripping hard or initially gripping with an uncomfortable end-state, (Wilmot, K& Byrne, M. 2013). Backache could potentially derive from difficulties with posture control (Chen et al., 2011), but the type of craft activity engaged in is also a contributing factor. Silversmiths, for example, are notorious for developing humps after years of bending over their work.

Developmental disorder expert Professor Amanda Kirby^{iv} describes the layers of support acting as 'scaffolding', to enable children and adults with dyspraxia to keep on top of their difficulties. As they move into more independent living the scaffolding comes down, and this can lead to the individual feeling unable to cope. My findings support this claim. One ceramic student, who is used to working with a team of people, struggles with stress on her MA course because she needs to complete every single part of the process herself, without any delegating or outsourcing. Another participant told of how she failed all her A Levels at a time when there was a family crisis and she lost her parental support at home.

The students have developed excellent coping strategies on their own, however stress is a major factor in their experience. In open plan workspaces, this extends to other people affecting their personal environment. It is evident that self-esteem issues are related to past experiences in childhood and early adulthood. As Penketh writes, students are expected to produce accurate observational drawing at school (Penketh, C. 2007)). Deviation and the expression of different ways of seeing is not always celebrated, but rather, frequently misunderstood. At school, I remember wanting to make a statement sculptural piece for a competition – an ashtray made out of cigarette ends. I recall telling my art teacher the idea and her face, revolted, telling me that 'that is disgusting'. I was not allowed to make it. On retelling the story to a school friend recently, he remembered her response differently. An artist himself, he distinctly remembers her saying that 'that is the sort of project that would be encouraged at A-Level or higher, but not at GCSE'. I had remembered and carried with me only the negative aspect of that feedback.

The participants in this research are extremely talented practicing artists in their fields, and yet that talent was not recognised at school level – even discouraged. This raises the question of whether school art education can create a dangerous exclusivity, placing too much emphasis on particularly traditional forms of art and art appreciation. Conforming to these methods and principals then becomes necessary in order to progress to the higher levels of art education where conceptual and innovative work is then required. This paradigm is exacerbated as quantitative research regarding specific learning difficulties and drawing ability is produced (Mcmanus et al. 2010), attempting to define the typical and the atypical art student guided by those same principles of accuracy. Such assumptions attributed to learning differences have the potential to affect whether educators encourage students to pursue art into further education, conceivably allowing talented creative thinkers to slip through the system.

The participants reported that their disability assessment confirmed they possessed superior three-dimensional visual reasoning abilities. This was also alluded to in Penketh's study, where her case study said, 'when I look at any object it's almost ... like I'm viewing it from more than one angle' (Penketh, 2007). For these visually superior students to have then been discouraged by art teachers at school level demonstrates a precarious flaw in the system.

It could be argued that as a result of the difficulties that these students face, they have learned perseverance - an essential tool in becoming successful in the incredibly competitive world of professional craft. In Angela Duckworth et al.'s research paper *Grit: Perseverance and Passion for Long-term Goals*, she found that, 'Grit nonetheless demonstrated incremental predictive validity of success measures over and beyond IQ and conscientiousness' (Duckworth et al., 2016). The participants overarching attitude is that physical challenges can be very easily overcome or worked around through practice and hard work, while the executive function aspect of their dyspraxia has a massive impact on their personal and work life. This is the area where they are desperately seeking help; why they sought out assessment and why they chose to take part in this research.

5.2 Conclusion

This research is a work in progress and, as such, it is too early to form a conclusion. With that in mind, based on my findings so far it appears that these participant artists have a dyspraxic profile showing greater difficulty with executive function than with fine motor skills. Fine motor skills appear to impact the students on a secondary level. They are able to keep good control of the material but get sore hands, most likely as a result of incorrect or over gripping (Wilmot, 2013). This may impact them on a long-term basis. Sore neck and back may suggest a tightening up of the upper limbs and poor posture control while working. This may also have long-term ramifications (Chen et al., 2011).

Experiences in the school art classroom point to a potential failing in the art education system that warrants further investigation. Issues that cause difficulties when uncontrolled, such as Rapid Concept Production, if applied with structure and strategy, are also what make these individuals excel in the creative arts. Therefore, it is in the careful managements and application of strategies that keeps these areas functioning as abilities and not disabilities for artists with dyspraxia.

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Endnotes

^{i i} Motor function means physical movement or activity. Executive function means the organisation and planning of behaviour.

ⁱⁱ Rapid Concept Production – Emily Öhlund, 2017

ⁱⁱⁱ I chose not to ask for diagnosis documents because, for the purpose of this qualitative study, they are not necessary. Such documents are highly sensitive and require different sorts of ethical considerations.

^{iv} Amanda Kirby used this analogy at a presentation in 2016 at the International conference on cerebral palsy and other childhood-onset disabilities pre-conference symposium: developmental coordination disorder (DCD): state of the art entitled: What makes DCD a lifelong multisystem disorder?

Figures

Fig.1 Jeweller working at her bench

Fig.2 Ceramicist's bench with additional walls built up in plywood

Fig.3 Jeweller's bench space walled in with storage cabinet

Fig.4 Textile artist's sketchbook

Fig.5 Textiles artist's bench space with mood board

Fig.6 Textile artist's schedule

Fig.7 Metalsmith's Moleskine diary

Fig.8 Jeweller's Moleskine notebook

Fig.9 Ceramicist's Moleskine notebook

Fig.10 Pablo Picasso and Vincent van Gogh's Moleskine notebooks

Fig.13 Ceramicist's bench space

Fig.14 Ceramicist's temporary bench space for single job

Fig.13 Jeweller at her bench in the open plan studio

Fig.14 Simplified graph of results (y- symptoms, x- total scores)

References

- Adams, Tony, Jones, Stacy, Ellis, Carolyn (2015) *Autoethnography*, New York: Oxford University Press.
- Biotteau, M. and Chaix, Y. and Albaret, J. (2015) 'Procedural Learning and Automatization Process in Children with Developmental Coordination Disorder and/or Developmental Dyslexia'. *Human Movement Science* 43: 78-89
- Braun, Virginia, Clarke, Victoria (2013) *Successful Qualitative Research*, London: Sage Publications Ltd.
- Chen, F. and Stoffregen, T and Chang, C and Wade, M. (2011) 'Postural Adaptations to a Suprapostural Memory Tasks in Children with and without Developmental Coordination Disorder'. *Developmental Medicine and Child Neurology* 54(2): 155-9
- Czikszentmihalyi, Mihaly (2002) *Flow*, London: The Random House Group.
- Duckworth, A. and Peterson, C. and Matthews, M. and Kelly, D. (2007) 'Grit: Perseverance and Passion for Long-Term Goals'. *Journal of Personality and Social Psychology* 92 (6): 1087
- Grant, David (2005) *That's the way I think: Dyslexia and Dyspraxia explained*, London: David Fulton Publishers.
- Penketh, C. (2007) 'Supporting Pupils with Dyspraxia in the Visual Arts. Does Drawing from Observation Function as an Official and Discriminatory Discourse?' *International Journal of Art and Design Education*, 26(2): 144-154
- Peters, J. Bartnet, A. Henderson, S. (2008) 'Clumsiness, Dyspraxia and Developmental Coordination Disorder: how do health and educational professionals in the UK define the terms?' *Child: Care, Health and Development*, 27(5): 399-412
- Miyahara, M. (2015) 'Theoretical and Practical Issues of Motor Impairments', in Anna Barnett and David Sugden (ed.) *Moving, developing and learning*, Oxford: Oxford Brookes University, pp. 174-182
- Miyahara, M. Register, C. (2000) 'Perceptions of Three Terms to Describe Physical Awkwardness in Children', *Research in Developmental Disabilities* 21(5): 367-376
- Mcmanus, I. Chamberlain, R. Loo, P. Rankin, Q. Riley, H. Brunswick, N. (2010) 'Art Students Who Cannot Draw: Exploring the Relations Between Drawing Ability, Visual Memory, Accuracy of Copying, and Dyslexia', *Psychology of Aesthetics Creativity and the Arts* 4(1): 18-30
- Schoemaker, M. Smits-Englesman, B. (2015) 'Is Treating Motor Problems in DCD Just a Matter of Practice and More Practice?' *Disorders of Motor* 2(2): 150-156
- Wilkinson, J. Quin, E. Hitchins, J. & Ehrenberg, S. Irvine, S. Redding, E. Bothma, H. Pestano, C. (2008) 'Phase 1 of the Trinity Laban TQEF Funded Project on Dyspraxia in Music and Dance Students', Trinity Laban Internal Publication: 17-19
- Wilmot, K. Byrne, M. (2013) 'Grip Selection for Sequential Movememnts in Children and Adults with and without Developemetnal Coordination Disorder'. *Human Movement Science* 36: 1-24

Yao-Chuen Li (2017) 'A developmental perspective of the Relationship between Developmental Coordination Disorder and Internalizing Problems Based on the Environmental Stress Hypothesis', PhD Thesis, McMaster University Hamilton, Ontario, iv, 1-254

Original Interviews (Pseudonyms used for privacy)

Lucy, 2017. Interview with Emily Öhlund. Royal College of Art, London.

Holy, 2017. Interview with Emily Öhlund. Royal College of Art, London.

Kelly, 2017. Interview with Emily Öhlund. Royal College of Art, London.

Jude, 2017. Interview with Emily Öhlund. Royal College of Art, London.

Lila, 2017. Interview with Emily Öhlund. Royal College of Art, London.

Websites

<https://www.youtube.com/watch?v=fXleFJCqsPs4/8/2017>

<http://dyspraxiafoundation.org.uk/about-dyspraxia/dyspraxia-glance/>

<https://dyspraxiafoundation.org.uk/about-dyspraxia/> 1/7/2017

[http://www.nhs.uk/Conditions/Dyspraxia-\(childhood\)/Pages/Introduction.aspx](http://www.nhs.uk/Conditions/Dyspraxia-(childhood)/Pages/Introduction.aspx) 1/7/2017

<https://www.pinterest.com/pin/436427020112313833/> 1/7/2017

http://3.bp.blogspot.com/_hWSa1S24kRo/TEP6uCL1TRI/AAAAAAAAAIs/6EBXnKwa_tg/s1600/leonardo-notebook.jpg 1/7/2017