DIAMOND'S ARE A GIRL'S BEST FRIEND... AND A GREAT DATA COLLECTION TOOL!

Rachel Dunn[1]

Abstract

This article explores an innovative and visual data collection tool: The Diamond. The Diamond allows for participants to rank specified items or statements and place them onto a Diamond shape. It can measure various descriptors, such as importance, with the most important item at the top and the least at the bottom. This allows for the researcher to see the overarching relationships between the different items of statements. Participants are asked to discuss the reasoning behind the placements, which provides a qualitative element to a quantitative data set. This article is intended to be a practical guide as how to use the Diamond and analyse the results, discussing the practicalities of it and other potential uses. The examples used throughout are from researched which used the Diamond, namely in clinical legal education and youth justice studies.

Key Words

Research Methods, Visual Methods, Diamond Ranking, Clinical Legal Education, Youth Justice

[1] Rachel Dunn is a Senior Lecturer in the School of Law at Northumbria University, United Kingdom.

Introduction

It has been established in the literature regarding clinical legal education that there is a lack of empirical research and evidence into our pedagogy.[2] Further, it has been noted that the 'quality of reliable statistical data was low to non-existent,' along with 'large gaps in the literature.'[3] One possible explanation of this is legal educators are not often trained in empirical research methods, since legal education, and traditionally law generally, emphasise doctrinal research. Further, those who teach in law clinics may not be given appropriate time, resources and training in how to collect, analyse and report on findings.[4]

This article will outline a very useful data collection tool, called Diamond Ranking. This tool was originally designed and used in primary education research[5], though one of the earliest reports of it being used was with children in the care of Local Authorities.[6] I have developed it for use in higher education, specifically legal education, and have used it with Young People on other projects. It was the main data collection method for my PhD research, which focused on the knowledge, skills

[2] M Tomoszek, 'The Growth of Legal Clinics in Europe – Faith and Hope, or Evidence and Hard Work?' 2014 21(1) International Journal of Clinical Legal Education 93

[3] J Ching *et al*, 'An overture for well-tempered regulators: four variations on a LETR theme,' (2015) 49(2) The Law Teacher 143, 146

[4] McKeown, P. and Dunn, R., 'The European Network of Clinical Legal Education: The Spring Workshop 2015,' (2015) 22(3) The International Journal of Clinical Legal Education 312

[5] Clark, J. 'Exploring the use of Diamond Ranking activities as a visual methods research tool' (2009) Paper presented at the 1st International Visual Methods Conference. Accessed via <https://www.academia.edu/1197680/Exploring_the_use_of_diamond_ranking_activities_as_a_visual_methods_research_tool> Last cited 3.10.20

[6] Thomas, N.P. and O'Kane, C. 'Children's Participation in Reviews and Planning Meetings When They are "Looked After" in Middle Childhood' (1998) 4 Child and Family Social Work 221

and attributes considered necessary to start day one training competently and whether live client clinics can develop them. The method was chosen because it was quick, simple and generated several forms of relatively easy analysis. It also encourages group discussion, which will be explored in this article, allowing for both quantitative and qualitative data to be collected. The first part of this article will outline visual methods and the literature surrounding the Diamond. An in-depth explanation will be given as to how to use the Diamond, how to analyse it and what uses it has in both research and teaching, with reference to my own work as practical examples. This article will not discuss the findings of my PhD research[7] any further than to explain how the analysis works, but rather the methodology and usefulness of the Diamond as a practical guide. More recently, I have used it as a tool for collecting data in a Children's Secure Unit, which will be discussed in the final section.

The Diamond

The Diamond, originally called the Diamond9, is used in primary education. It has been described as a, '*thinking skills tool*,' [8] which encourages and facilitates discussion. A typical Diamond9 looks like the following:

[7] For more information, please see Dunn, R., *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University

[8] Clark, J., Laing, K., Tiplady, L. and Woolner, P., 'Making Connections: Theory and Practice of Using Visual Methods to Aid Participation in Research,' (2013) Research Centre for Learning and Teaching, Newcastle University, p.6. Accessed via

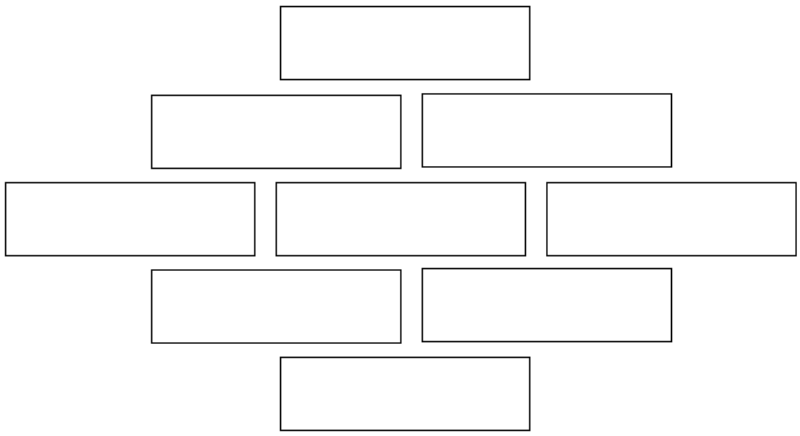


Figure 1 – The Diamond9

The way in which it works is simple. Participants are given nine cards, which can contain statements, words or pictures. They are asked to place them on the Diamond board in a hierarchy, depending on what the researcher is measuring. For example, in my research I was measuring which knowledge, skills and attributes were considered important to practice. The card considered most important was placed at the top of the Diamond, and the card considered least important at the bottom. The Diamond is a diverse tool, which can be used to measure essentially anything. For example, instead of importance you can use it to measure feelings, preferences or interests. It can even be used to measure preferred crisp flavours or cutest animals. When one normally asks someone to rank in a list form, we have a definite place for each category, but it may tell is little about the relationship between the ranking. The researcher will find what the 'most' and 'least' category being measured, which are

<https://eprint.ncl.ac.uk/file_store/production/190964/23811F02-9772-42F3-B124-AD0830449ED7.pdf> Last cited 11.06.18

easy to identify, but the middle becomes undifferentiated and tells us little about the placements. The purpose of the Diamond is to, 'encourage discussion about the relative importance of certain factors.'[9] Cards which are placed on the same row are thought of as carrying the same weight of whatever is being measured and presents the researcher with the opportunity to explore the relationship between those elements. Cards may be moved into a different rank once placed on the board and all cards must be placed, for a complete Diamond. The important aspect of the Diamond, however, is not necessarily the final position of what is being measured, as there is no right or wrong answer. The importance is the 'process of discussion, negotiation, accommodation to other perspectives, and consensus-seeking that takes place in agreeing the ranking.'[10]

When participants organise their opinions in this way, they make their 'understandings available for analysis and comparison.'[11] Comparisons and differences can be made between different categories, which gives a richer analysis and discussion than merely listing categories. Furthermore, 'when ranking items – for example, statements, objects or images – the participants are required to make

[9] M Rockett and S Percival, *thinking for learning*, (Network Education Press, 2002) 99

[10] Clark, J. 'Exploring the use of Diamond Ranking activities as a visual methods research tool' (2009) 3. Paper presented at the 1st International Visual Methods Conference. Accessed via <https://www.academia.edu/1197680/Exploring_the_use_of_diamond_ranking_activities_as_a_visual_methods_research_tool> Last cited 3.10.20

[11] Clark, J., Laing, K., Tiplady, L. and Woolner, P., 'Making Connections: Theory and Practice of Using Visual Methods to Aid Participation in Research,' 2013, Research Centre for Learning and Teaching, Newcastle University, 6 <https://eprint.ncl.ac.uk/file_store/production/190964/23811F02-9772-42F3-B124-AD0830449ED7.pdf> Last cited 11.06.18

obvious the overarching relationships by which they organise knowledge.'[12] Thus, there is not only discussion between categories placed on the same row, but across the whole of the Diamond, making the participants' views and constructions more transparent to the researcher.

As mentioned above, the Diamond can collect both qualitative and quantitative data, whether it is done as part of a group, or individually. The quantitative data is the placement of the cards on the board. When I used it to collect my PhD data, I encouraged groups to discuss the placement of the cards. This prompted some very interesting discussion, with group members often disagreeing with each other, and produced qualitative data. There was never, however, a Diamond which was incomplete, with members always coming to some agreement[13].

There are also ways to adapt the Diamond to collect further data, adding an inductive element to an apparently deductive tool. For example, adding blank cards so that participants can create their own category is a great way to collect some other

[12] Niemi, R., Kumpulainen, K. and Lipponen, L., 'Pupils as active participants: Diamond ranking as a tool to investigate pupils' experiences of classroom practices,' 2015, 14(2) European Educational Research Journal 138, 140

[13] This is in part a result of the semiotics of the task, which encourages completion. However, interesting qualitative data can come from discussions about the nature of the task when participants are reluctant to use hierarchies of any kind. This was reported by Clark, who had a participant refuse to adhere to the Diamond shape, arguing there was no one image which should be ranked lowest. Clark highlights that, whilst frustrating for the researcher, 'a truly participatory approach also must allow for dissention and allowances to opt out of any aspect of research'. Found in: Clark, J. 'Exploring the use of Diamond Ranking activities as a visual methods research tool' (2009), 9. Paper presented at the 1st International Visual Methods Conference. Accessed via <https://www.academia.edu/1197680/Exploring_the_use_of_diamond_ranking_activities_as_a_visual_methods_research_tool> Last cited 3.10.20

categories of data. If we take our example of preferred crisp flavours, the researcher may provide participants with cards which have flavours currently sold on the market. Allowing participants to create their own category may result in them suggesting new flavours of crisps, or flavours which are no longer sold, but feel should be brought back. Some have also reported using the Diamond9 by providing 10 cards and asking participants to discard one as 'not important or relevant.'[14] This adds a deeper element to the data collection and reflexivity on the part of the researcher and the terms of their hypothesis. What can seem like quite a rigid tool can become flexible and fluid, creating further ways to collect data and opinions from participants and be adapted for whatever the research purpose is.

Visual Methods

A visual method is, 'the use of visual materials as one among several research methods that may be employed by a social researcher during the course of an investigation.'[15] There is not necessarily a fixed definition of what a visual method is, but it is generally agreed that visual images are created by participants, 'in the context of, or in response to, human social action.'[16] Thus, in order for a method to be considered visual, there must be a visual element to it, and can include photographs,

[14] Clark, J. 'Exploring the use of Diamond Ranking activities as a visual methods research tool' (2009) 3. Paper presented at the 1st International Visual Methods Conference. Accessed via <https://www.academia.edu/1197680/Exploring_the_use_of_diamond_ranking_activities_as_a_visual_methods_research_tool> Last cited 3.10.20

[15] Banks, M. and Zeitlyn, D., *Visual Methods in Social Research*, (SAGE, 2015), ix

[16] Flick, U., *The SAGE Handbook of Qualitative Data Analysis* (SAGE, 2013), 394

drawings and diagrams.[17] This could be in addition to, or independent from, other non-visual methods, such as interviews or surveys.[18] It is important to distinguish between visual and non-visual methods, in order to explore whether the contribution visual methods make is 'distinctive', and to ensure rigour of the data collection and analysis.[19] Visual methods are by no means a new concept and have mostly been used in fields such as sociology and anthropology. Other fields, such as education and health care, now incorporate visual methods into some research.[20] A systematic review conducted by Balomenou and Garrod found studies using participant-generated images dating back to the 1970s, with 286 studies identified in total.[21] This, however, is only techniques using photography, and there are many other visual methods which are used, such as the Diamond explained above.

[17] Wall, K., Higgins, S., Hall, E. and Woolner, P. ''That's not quite the way we see it': the epistemological challenge of visual data' (2012) International Journal of Research & Method in Education 1, 1

[18] In fact, those who use the Diamond discuss its usefulness in supporting and/or being supported by other non-visual research methods, or often report using them alongside more traditional methods. For example: see Dunn, R., *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University Bucknall, S.M. *Children As Researchers: Exploring Issues and Barriers in English Primary Schools* (2009) PhD thesis, The Open University; Prosser, J. 'Visual methods and the visual culture of schools' (2007) 22(1) Visual Studies 13

[19] Wall, K., Higgins, S., Hall, E. and Woolner, P. ''That's not quite the way we see it': the epistemological challenge of visual data' (2012) International Journal of Research & Method in Education 1, 2

[20] Glaw, X, et al, 'Visual Methods in Qualitative Research: Autophotography and Photo Elicitation Applied to Mental Health Research,' 2017, 16 International Journal of Qualitative Methods 1, 1

[21] Balomenou, N, and Garrod, B., 'A Review of Participant-Generated Image Methods in the Social Sciences,' (2016) 10(4) Journal of Mixed Methods Research 335

Visual methods can be created by their participants, '*in the context of, or in response to, human social action.'*[22] Prosser identifies three categories of visual methods: researcher found, researcher generated, and participant generated.[23] The Diamond sits between the latter two. The researcher generates the Diamond board and some, or all, of the categories for measurement, but it is the participants who generate the final Diamond board. Others argue that there are two kinds of visual methods: one is created by participants to analyse as data and the other is created by the researcher to collect data.[24] Wall *et* al categorise the Diamond in participant generated data,[25] but it doesn't seem that it is only generating that kind of data, and it may depend on how the Diamond is being used. For example, if we are providing participants with pre-determined cards only, the Diamond is a method created by the researcher to collect data, but also by the participants to analyse as data. If, however, participants are asked to take their own photographs and then place them on a Diamond, this would fall more into the participant generated data category. Seemingly, irrespective of how many categories of visual methods are identified by different authors, the Diamond does not fit conclusively into only one of them. This diversity, however, is what 'makes visual methodology complex and attractive'.[26] It is not an issue to 'blur the boundaries' between the different kinds of visual methods, but it must be

[22] Flick, U., *The SAGE Handbook of Qualitative Data Analysis* (Sage, 2013), 394
[23] Jon Prosser, 'Visual methods and the visual culture of schools,' (2007) 22(1) Visual Studies 13, 19
[24] Flick, U., *The SAGE Handbook of Qualitative Data Analysis* (Sage, 2013), 396
[25] Wall, K., Higgins, S., Hall, E. and Woolner, P. ''That's not quite the way we see it': the epistemological challenge of visual data' (2012) International Journal of Research & Method in Education 1, 3
[26] Ibid 2

acknowledged in order to fully comprehend the impact it can have on the data may be classified.[27]

There are many advantages to using visual methods, such as enhancing 'the richness of data by discovering additional layers of meaning, adding validity and depth, and creating knowledge.'[28] Further, they can be used for member checking to add to reliability of findings and can be replicated with almost any population.[29] Visual methods can be used alongside other, more traditional, research methods, such as interviews. The visual method can become the focus of the interview, to better understand the meaning of the visual to the participant, further validate the data and to encourage participants to express themselves in a way which may not be possible using verbal techniques alone.[30] The use of the visual can prompt participants to, 'reveal more than they were expecting to share with the researcher.'[31]

Visual images, such as the Diamond, 'could help to alleviate anxiety about the research process and to clarify the role of the researcher.'[32] This role clarification is useful for aiding the researcher, as well as participants. Visual methods tend to have

[27] Ibid
[28] Glaw, X, et al, 'Visual Methods in Qualitative Research: Autophotography and Photo Elicitation Applied to Mental Health Research,' (2017) 16 International Journal of Qualitative Methods 1, 1
[29] Ibid
[30] Stedman, R. et al, 'A Picture *and* 1000 Words: Using Resident-Employed Photography to Understand Attachment to High Amenity Places,' (2017) 36(4) Journal of Leisure Research 580
[31] Pain, H., 'A Literature Review to Evaluate the Choice and Use of Visual Methods,' (2012) 11(4) International Journal of Qualitative Methods 303, 313
[32] Bailey, N.M, and Van Harken, E.M., 'Visual Images as Tools for Teacher Inquiry,' (2014) 64(3) Journal of Teacher Education 241, 245

a recognisable semiotic form, and by their nature they imply interaction, which may ease participation and be a pathway into conversations between the research and the participants.[33] Further, the timing or pace of these interactions is much less controlled then is more dialogic forms of data collection, such as interviews or a survey. In this way, the researcher can retreat into the background and allow the participants to have more autonomy and control over the data collection process and interact with each other, rather than the person exploring their opinions. During my data collection for me PhD, I very much knew my position in the research process and what my role was during the data collection. Once I told my students what they had to do, I stepped back and let them do it, allowing them to 'set the agenda'[34] of the Diamond. This will be explained further below.

How I used it

For my own research, I made the Diamond bigger, with 16 spaces. I felt as though this were necessary, as there are so many knowledge, skills and attributes involved in legal practice, and only nine spaces would not have reflected this. It was the same concept, but a bigger board. The Diamond16 looked like the following:

[33] For example, Hopkins discusses the use if the Diamond as a 'useful starting point for conversations between teachers and pupils and between student teachers and their tutors about ways in which teaching and learning might be enhanced and personalized.' Hopkins, E. 'Classroom Conditions for effective learning: hearing the voice of Key Stage 3 pupils' (2010) 13(1) Improving Schools 39, 53.
[34] Prosser, J., 'Visual methods and the visual culture of schools,' (2007) 22(1) Visual Studies 13, 22

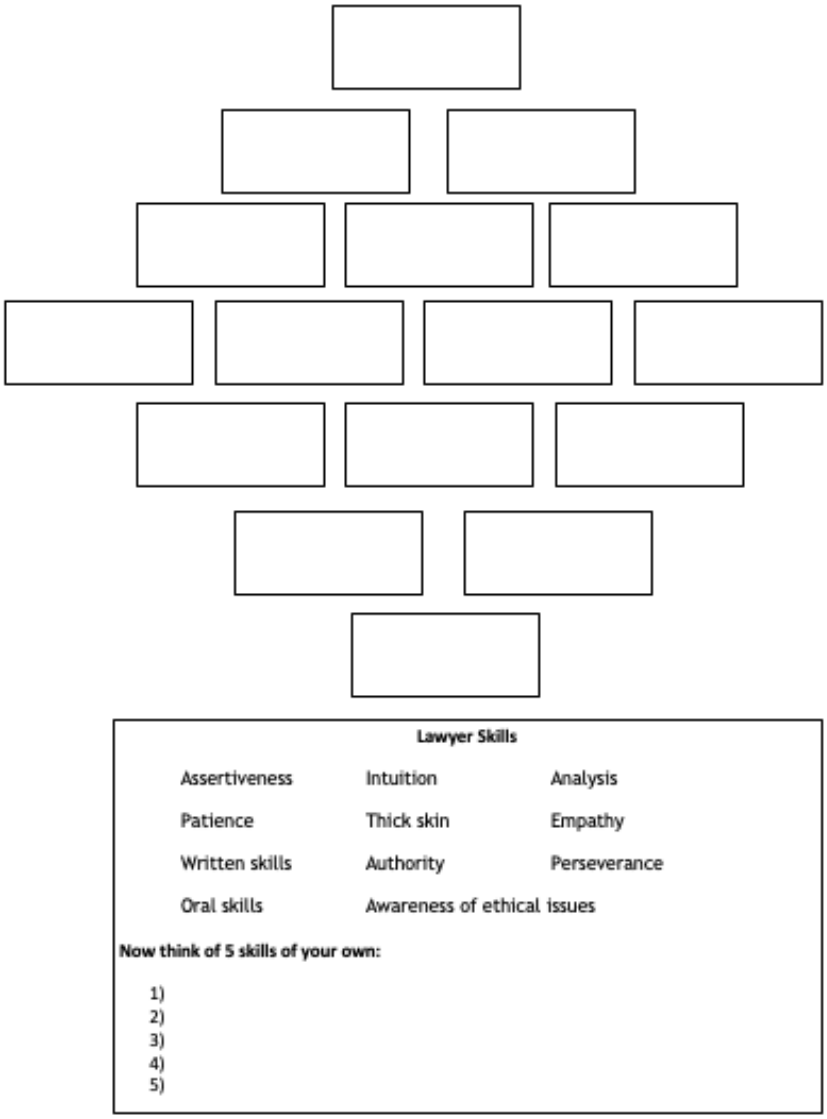


Figure 2 – The Diamond16

It maintained the Diamond shape, but had more rows and cards. I gave my participants 11 pre-determined cards, as seen on *Figure 2*, and five blank cards, to create their own knowledge, skills and attributes. This enabled me to collect a whole other data set to analyse, as I was curious to see what they thought important enough to create on a card. It also made for interesting cross-analysis across all of the groups. There are other areas of analysis which can provide some useful results and discussion, from a methodological perspective. For example, it is possible to track

the movement of a card throughout a Diamond. It was interesting see something which may have started off as important but, as discussions develop and other cards are placed, move down the board or are swapped with others. This analysis is greatly aided by the qualitative data, explaining why a card has been moved. Further, the qualitative data can be turned into quantitative data, recording how often a card is discussed, or not discussed, and whether this has had an effect on its placement. For example, one may find that a card not discussed is not placed highly on the board, and the perceived most important cards are discussed more. This kind of analysis may not completely answer the research questions which are being asked, but may help to explain what is going on behind the scenes and open up further areas of discussion and methodological questions.

My primary data was collected with four firms of students in Northumbria's Student Law Office over an academic year. As the students were starting their clinical experience, I collected a Diamond16 during their first firm meetings. I then went back at the middle and end of the year. The final Diamond16 was collected during their last firm meeting, which was followed by a semi-structured group interview, in which I presented them with all of their Diamond16s from across the year. This interview served two purposes: to validate the Diamond16s and to explore with them further what they thought was important to practice and whether they thought their experience in the Student Law Office had helped to develop these skills. Thus, for these students, I could track their development and potentially changing

perspectives over the year, as they gained more practical experiences. The Student Law Office also offers electives in the second semester to BPTC and LPC students. One Diamond16 was collected with the BPTC students, but I was able to collect two with the LPC students, at the start and end of the module.

For comparison, I collected data with the tutors whose firms I had been allowed access to, who had, or still, practised. They either did it as a group or individually. Those who did it individually were asked questions about the placement of the cards once they had completed the Diamond16, to collect the necessary qualitative data. I was also permitted to enter two law firms in Newcastle in collect data. A commercial firm participated as a group, including partners, solicitors who oversee trainees and a representative from HR and recruitment. One lawyer participated from a legal aid firm. Finally, I gained access to three other clinics: another in the North East of England, one in Poland and one in Czech Republic. This enabled me to conduct a cross comparison between different groups, to explore whether location, experience and proximity to practice can change perceptions of what is important to practice.

Altogether I had 110 participants, with 32 completed Diamond16s. This gave me a wealth of data to analyse and discuss, with many different perspectives and experiences present. It is important to note, however, that not every Diamond16 produced qualitative data. Some of the Diamond16s conducted in Poland and Czech

Republic were done by non-English speakers and, whilst parts of it were translated/interpreted for me, it was not enough for me to be confident to use is as a reliable data set during the analysis. Thus, eight of the Diamond16s had excluded qualitative data, which was recorded and explained during the analysis stage of the PhD. It may be important here to emphasise that not all research goes exactly as planned and, as long as the researcher is transparent in their findings appropriate conclusions can be drawn from the results. After all, we can't plan for and anticipate everything during the research process.

Practicalities

There are some practicalities to consider when using the Diamond. Firstly, I never spoke to my participants when they were doing the Diamond, except to further clarify how it worked. I would tell them at the start what they needed to do, but I never discussed what the different cards meant. I wanted to know what each knowledge, skill and attribute meant to them, rather than them adopting my definition. This worked effectively, as their meaning of certain cards was developed and drawn off their experience of working with it. This means that the skills can mean something different to each participant, making for some very interesting discussions.

It also needs to be considered how to record the data. I filmed each Diamond16, with the consent of my participants, on my iPad. This meant I could accurately record

their discussions and the movement of the cards. Once the Diamond16 was complete, I took a picture of the final placement. These pictures were used in my thesis and made it easier to check my data once it was converted to the spreadsheets. I wrote up each Diamond16 after it happened, using the videos as an aid, recording which group of participants it was, how many participated, the date and any other details which needed to be noted. I made a written transcription of all of the qualitative data, provided the picture of the final placement and stated which cards were created and which were moved throughout the Diamond16 and to where. This served me well when it came to analysis, as I had 32 Diamond16 altogether to organise.

Recording using technology, however, may not always be appropriate or possible. Other ways in which to record the data is to print off multiple Diamond boards and stick cards to the board once complete. This also means that an accurate note must be made of any comments and discussions. I have also produced worksheets of the Diamond16, used mainly in teaching, which allows participants to write the skills in the boxes. This potentially stifles the movement of the cards, as participants will have to cross out and rewrite a category, but it provides the researcher with final placements.

The Diamond is a quick method to use. Each exercise took anywhere from a few minutes to half an hour. I found that I collected very rich data quite quickly, with a

variety of analysis possibilities. It also meant that transcribing did not take as long as it may with an interview.

Analysing the Diamond

As stated, the Diamond provides the researcher with both quantitative and qualitative data. This is a mixed method, meaning that it can be used to answer questions that ask *what*, *why* and *how*. Quantitative data can only show so much. For example, in my own research it could tell me what knowledge, skills and attributes were thought of as important, but not why or how they were important. The why or how is developed using the qualitative data. This is highlighted by Cresswell and Clark, when advocating for the use of mixed methods.[35] They argue that each kind of data has its merits but are limited in what they can show, so the weakness of one is redeemed by the strength of the other.[36] Thus, 'the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone.'[37]

What this means for the Diamond is that there are two kinds of analysis to consider. For ease of explanation, and to show a practical example, I will use some of my own Diamond16 analysis. The quantitative analysis will be explained in this article only. I used thematic analysis to analyse the Diamonds and my interviews, following

[35] Creswell, J.W. and Clark, V.L.P., *Designing and Conducting Mixed Methods Research* (SAGE, 2007)
[36] Ibid 9-10
[37] Ibid 18

Clarke and Braun's six steps.[38] There is already extensive articles and guides on thematic analysis and I do not feel it necessary to repeat it here.

When analysing the Diamond, the board should be split in different sections. Woolner *et al*, when analysing a Diamond9, split the board in 5 sections, each row becoming a section.[39] I did the same for the Diamond16, but with multiple rows contained in certain sections, as follows:

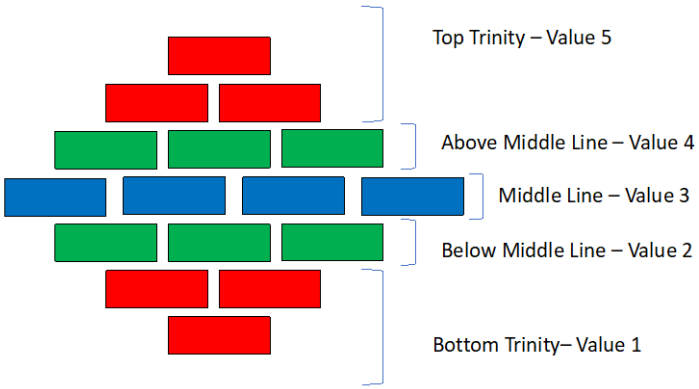


Figure 2 – Analysis of the Diamond16[40]

The calling of top and bottom sections the 'trinity' came from a group of participants, who refused to move any of the skills in this section and named it, 'The

[38] Clarke, V. and Braun, V., 'Using Thematic Analysis in Psychology,' (2008) 3(2) Qualitative Research in Psychology 77

[39] Woolner, P.*et al*, 'What Is Learning? Views of Ideal and Institutional Learning Held by HE, FE and School Teachers Engaged in Practitioner Enquiry' (The European Association for Practitioner Research on Improving Learning (EAPRIL) Conference Paper) 24th-26th November 2010

[40] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 158

Holy Trinity'. I liked this and adopted it during the analysis stage. As the board was bigger, I thought it easier to group the skills in this way, without masses of sections. It also allowed for me to see which skills were collectively placed at the top and the bottom, but if I wanted to discuss a skill in more detail because it was placed in the top box or the bottom box, I could still do this in the discussion. Further, it also meant that there were equal numbers of cards in each row, apart from the middle row which had four, making a more equal representation of where the cards were placed. Any cards which were placed on a certain row were given a numerical value. The more important the card was perceived, the higher the value it was given, because of how it would be represented on the graphs, which will be explained further. I entered all of the values into an Excel Spreadsheet. For example, when inputting the pre-determined cards and values for a Student Law Office firm over the course of the year, it looked like:

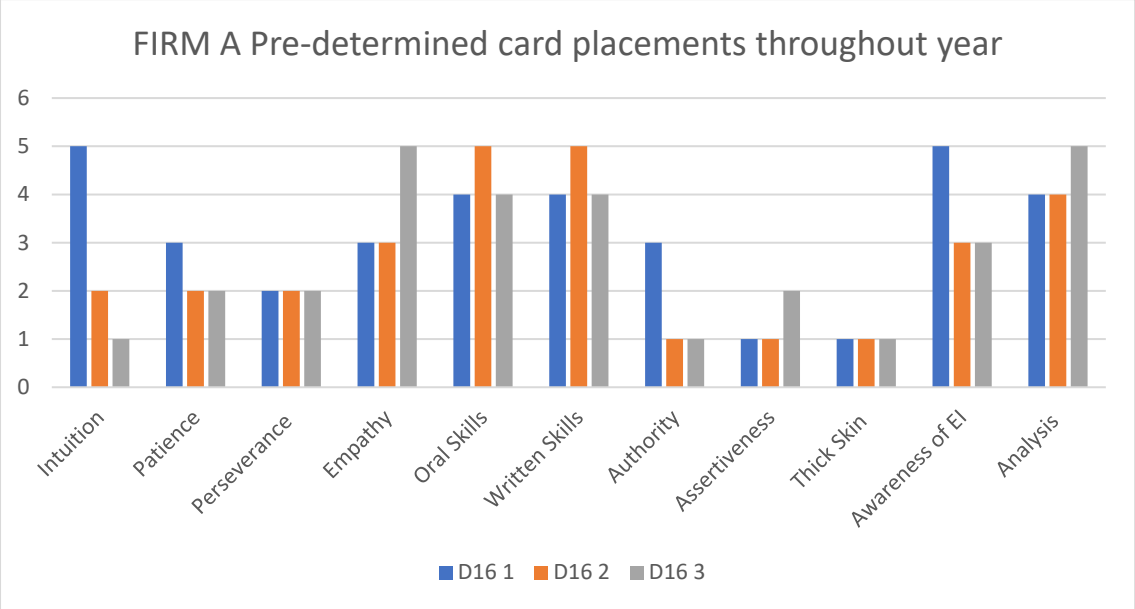
	Intuition	Patience	Perseverance	Empathy	Oral Skills	Written Skills	Authority	Assertiveness	Thick Skin	Awareness of EI	Analysis
D16 1	5	3	2	3	4	4	3	1	1	5	4
D16 2	2	2	2	3	5	5	1	1	1	3	4
D16 3	1	2	2	5	4	4	1	2	1	3	5

Figure 3 – Example of multiple Diamond16 pre-determined cards data input[41]

I analysed the pre-determined cards, which I gave participants, separately to the cards which they created. This made the analysis easier, but also so that there could be deeper discussion of each separate data set. When looking at this table, we can see that for this firm thick skin was always placed in the Bottom Trinity. Intuition

[41] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, Appendix 9

started in the Top Trinity at the start of the year, but progressively moved down as the year went on. Some cards fluctuated greatly, others stayed in a very similar place on the board. Looking at it this way, however, is only simple when you have worked with the data and can pick out the numbers easily. Excel is a great tool for making graphs and most of the data was presented in this way. This is why the numerical values were highest for the most important cards, so that they appeared higher on the graphs. It would have looked strange, for example, if analysis, which scored quite highly across all Diamond16s for this firm, appeared low on the graph making it seem less important at a first glance. Thus, the data in this table was displayed in the following graph:

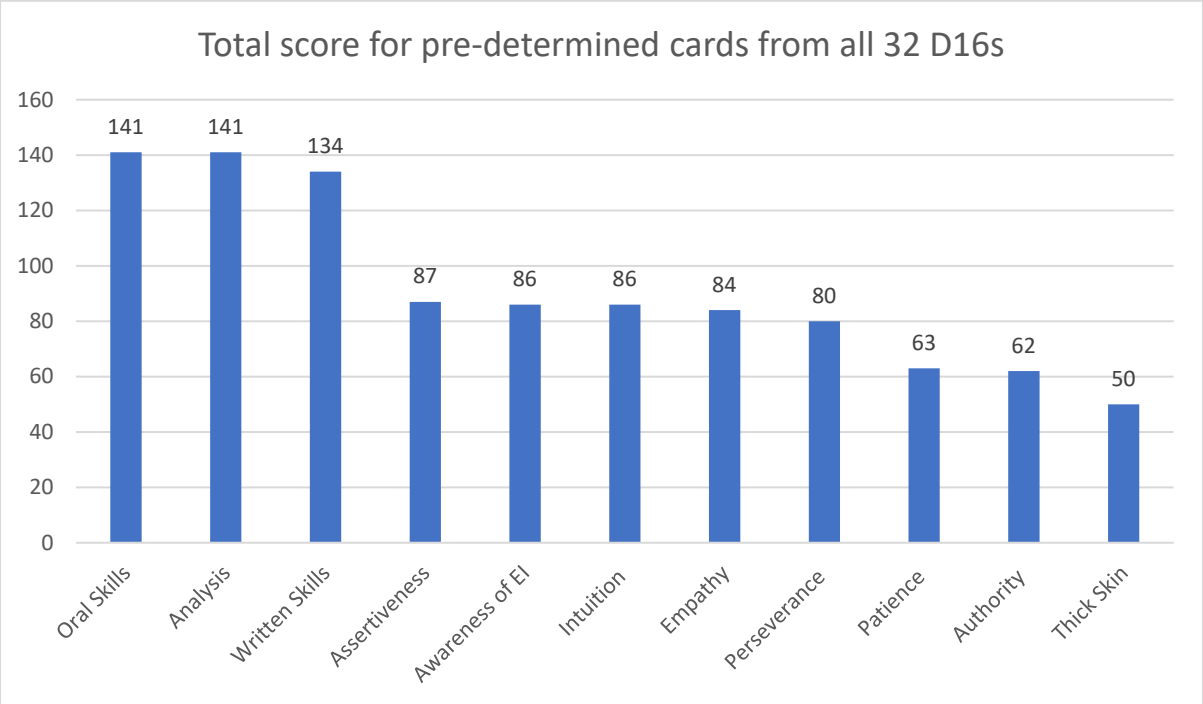


Graph 1 – Final Placement of the pre-determined cards for Firm A[42]

[42] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 220

Instantly when looking at this graph, we are able to see which cards were deemed the most important and which the least and how it changed and developed over the year. This was very quick and easy to make on Excel, using the above data.

Another way in which I could present the data, was to use all 32 Diamond16s and create an 'importance score'. This was done by adding together all of the numerical values of each card, to create an overall score. Again, Excel makes this very simple to do. It allowed me to see the overall perceived importance, and non-importance, of each card. This was done separately for the pre-determined cards and the created cards. The final graph for the pre-determined cards was:



Graph 2 – Importance Scores of Pre-Determined Cards[43]

[43] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 170

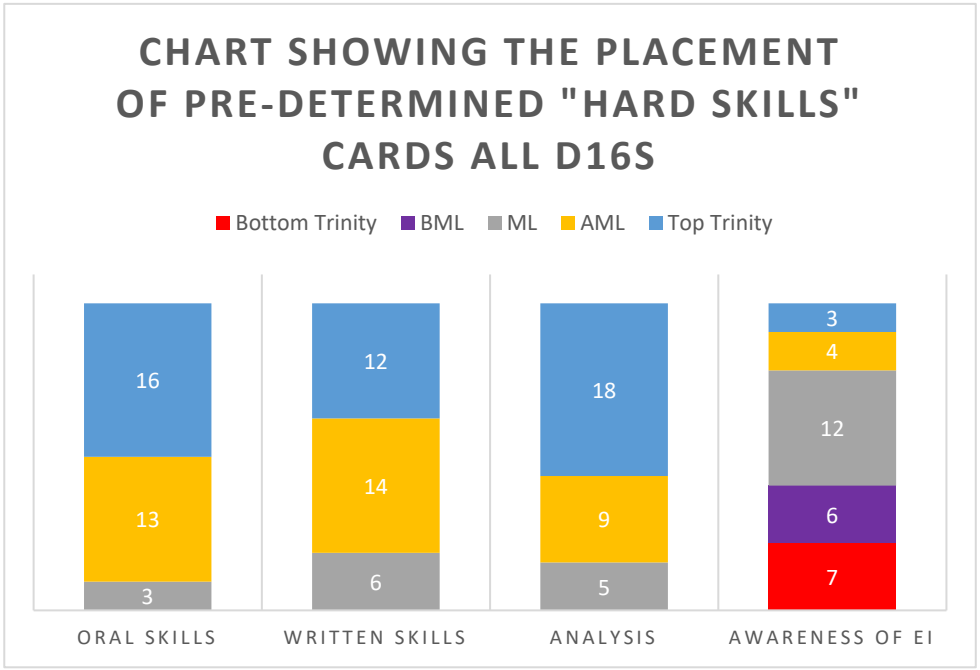
By giving a higher value to the cards in the top part of the board, it was easy to add up all of the values to provide an overall score. Here, we can see that oral skills and analysis were the most highly placed cards across all of the Diamond16s and thick skin was placed the lowest most often throughout all of the Diamond16s. What this does not tell us, however, is the range of where the cards were placed, even if we can see perceived importance. This will be addressed below.

I was also interested to see how the "hard" skills were perceived as important, compared to the "soft" skills. I split each of the cards into these two distinct categories and showed the amount of times they were placed in each section of the board. It is important to note here that the categorising of these cards was at times subjective, as are most decisions in research and analysis. This cannot be avoided as the decisions we make are based on our opinions and our own experiences. As long as there is 'honest acknowledgement of the researcher's position, goals, experience, and subjective point of view,' [44] and this subjectivity is not ignored it does not detract the rigour from the research. For example, there is dispute over whether awareness of ethical issues is a "hard" or a "soft" skill, and I decided to place it in the "hard" skills category. This is because students in the UK are tested on the Codes of Conduct during the course by way of an examination. I appreciate that there are elements of ethics which are in the "soft" skills category, but I strive to be

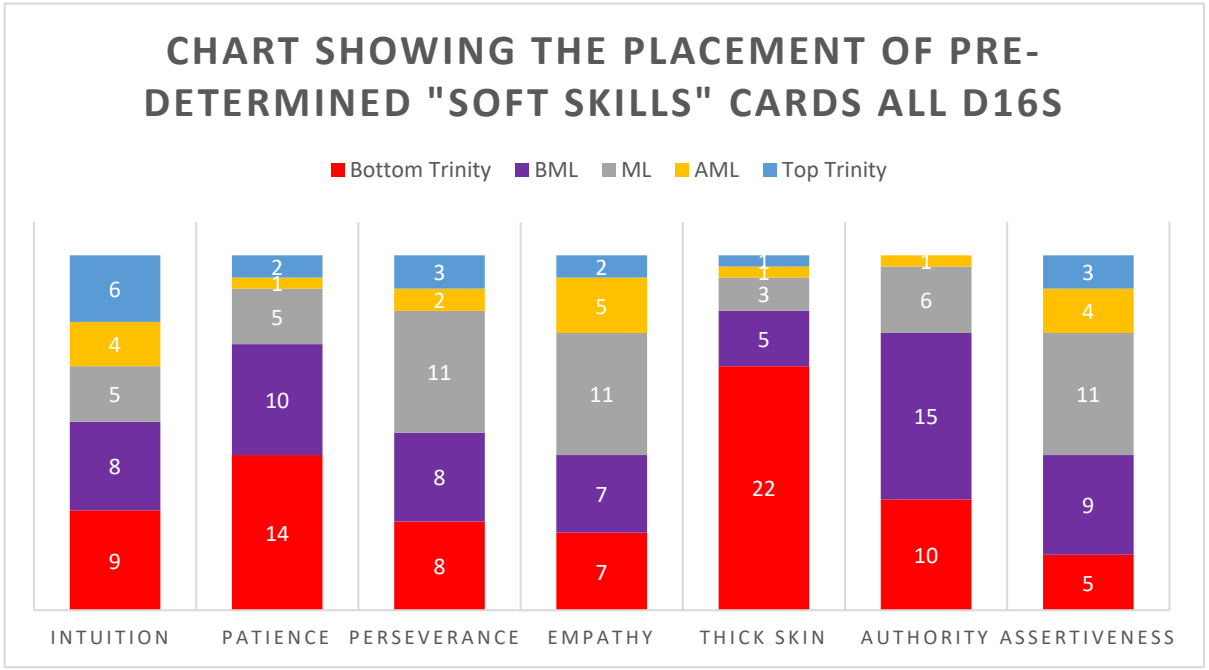
[44] Gelman, A. and Hennig, C., 'Beyond subjective and objective in statistics,' (2015), 12 Accessed via http://stat.columbia.edu/~gelman/research/unpublished/objectivity10.pdf Last cited 19.06.18

transparent on my categorisation and analysis and why certain choices were made. This analysis added some more insight into the perceived importance, which could not have been discussed using Graph 2 and the overall importance score. Again, I will only display the graphs for the pre-determined cards:[45]

[45] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 178



Graph 3 – Placement of "Hard" Skills for all Groups



Graph 4 Placement of "Soft" Skills for all Groups

When considering these graphs, we can see much more activity. Taking the hard skills first, apart from awareness of ethical issues there was never an instance of a "hard" skill being placed below the middle line. This explains how analysis, written and oral skills scored so highly overall. Awareness of ethical issues was placed more varied across the board, appearing more in the bottom half of the board, than the top. Looking at the "soft" skills, again they were much more varied in their placement. Thick skin, which scored the lowest overall, appeared in the bottom trinity more than any other card and only appeared in the top trinity once. These graphs can tell us more about the perceived importance than an overall importance score. For example, whilst analysis had the overall joint highest importance score, it was not perceived to be the most important for every group of participants, as there were 16 occurrences of it being placed outside of the top trinity. This is where the qualitative data collected during the Diamond16 is vital, as it helps to explain what is happening with the quantitative data, and why certain cards scored more highly. For example, thick skin and patience were placed in the bottom trinity more than other cards. A group of lawyers in a commercial firm stated:

> *'Because you can manage that [pointing to thick skin and patience]. If you know the NQ in your team doesn't have a thick skin, doesn't have patience, you can manage it.'*[46]

[46] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 180

Thus, skills which were seen as '*easy to manage*' were less likely to be seen as important. The more difficult skills to develop, such as the "harder" skills, were more important for starting day one training competently. This example emphasises that quantitative can only take us so far when discussing what the data shows and often it is imperative to have qualitative data to explain what is happening behind the numbers. The Diamond16, being a mixed methods tool, fosters this well.

In some instances, presenting data was easier done with a table, rather than a graph. It is necessary to explore different ways to present data, as they can each tell us of different activity with the data. I wanted to know how many times a "hard" skill was placed in each section of the board, compared to a "soft" skill:

Placement of card	Amount of times a "hard" skill was placed here	Amount of times a "soft" skill was placed here
Top Trinity	65	31
Above Middle Line	57	39
Middle Line	42	86
Below Middle Line	11	85
Bottom Trinity	11	85
Total	**186**	**326**

Table 1 - The amount of times a "hard" or "soft" skill (pre-determined and created cards) was placed in each section of the Diamond16[47]

[47] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 184

Importantly, I should highlight that there were more "soft" skills than "hard" skills, across both pre-determined and created cards. If we detract the number of predetermined skills from the overall numbers of each category, there were 58 cards created in the "hard" category and 102 cards in the "soft" category. This is an interesting observation to make, and there was no definite answer as to why this happened. It could be that there were just more "soft" skills which exist and were able to be created or it could be that the amount of "soft" skills created indicates that the skills are important, as they were created, even if not placed highly on the board. From this table it can be seen that the "hard skills" were more likely to be placed in the top half of the board than the bottom, and there were more "hard" skills placed here than there were "soft" skills overall. There were more instances of the "soft" skills being placed in the top half of the board, than there were of the "hard" skills being placed in the bottom half of the board. This can indicate that, even though there were less "hard" skills, their perceived importance is so great that they were not placed below the middle line as often as above. It can be argued that the "harder" skills are more inherently important to practice. If we look to some qualitative data, this can be explained further. Taking the commercial lawyers again, they stated:

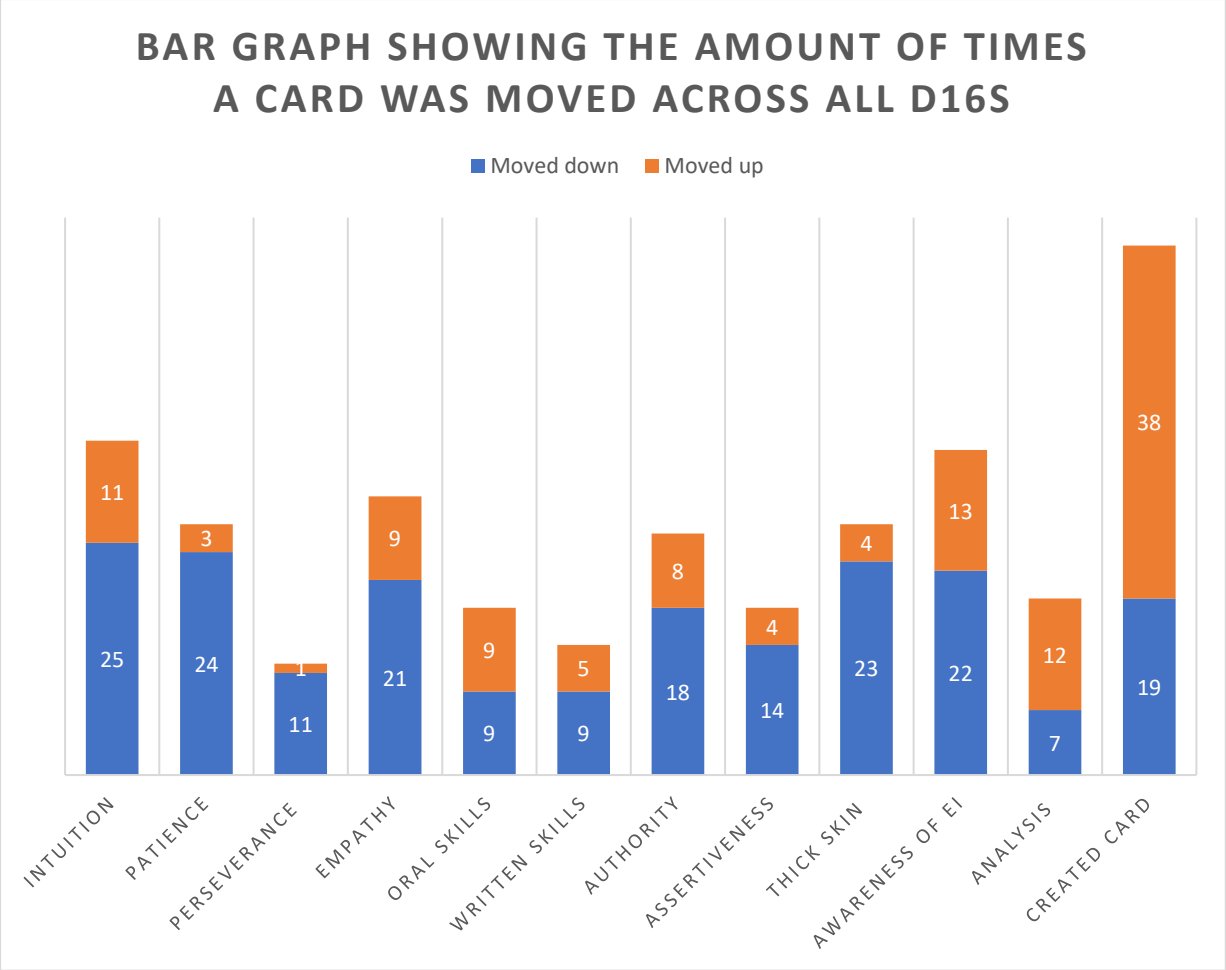
> *'….to a certain degree, as you go through your career and develop as a lawyer, there's almost a merging of this. You know, the bottom skills having to move up a little bit to deal with that fact you have developed and…. You*

> *know, you've developed the skills in the top half that allow you to then, as you've move up the chain perhaps in a firm, to develop more of a thick skin to deal with issues and become more assertive, etc.'*[48]

Thus, we can see an explanation of this as a '*merging*' of the different knowledge, skills and attributes over time. The skills you need when you start day one training are mostly the "harder" skills, then, as you progress through your career, the softer skills are developed and become more necessary. There were similar statements made by other participants, showing some generality of this conclusion. Again, this is an example of the qualitative data explaining what is going on behind the numbers.

Finally, we can use the Diamond16 to measure other methodological trends in the data. For example, I was curious to see if the amount of times a card was moved up or down on a board made a difference to its final placement and importance score. The movement is displayed on the following graph:

[48] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 185



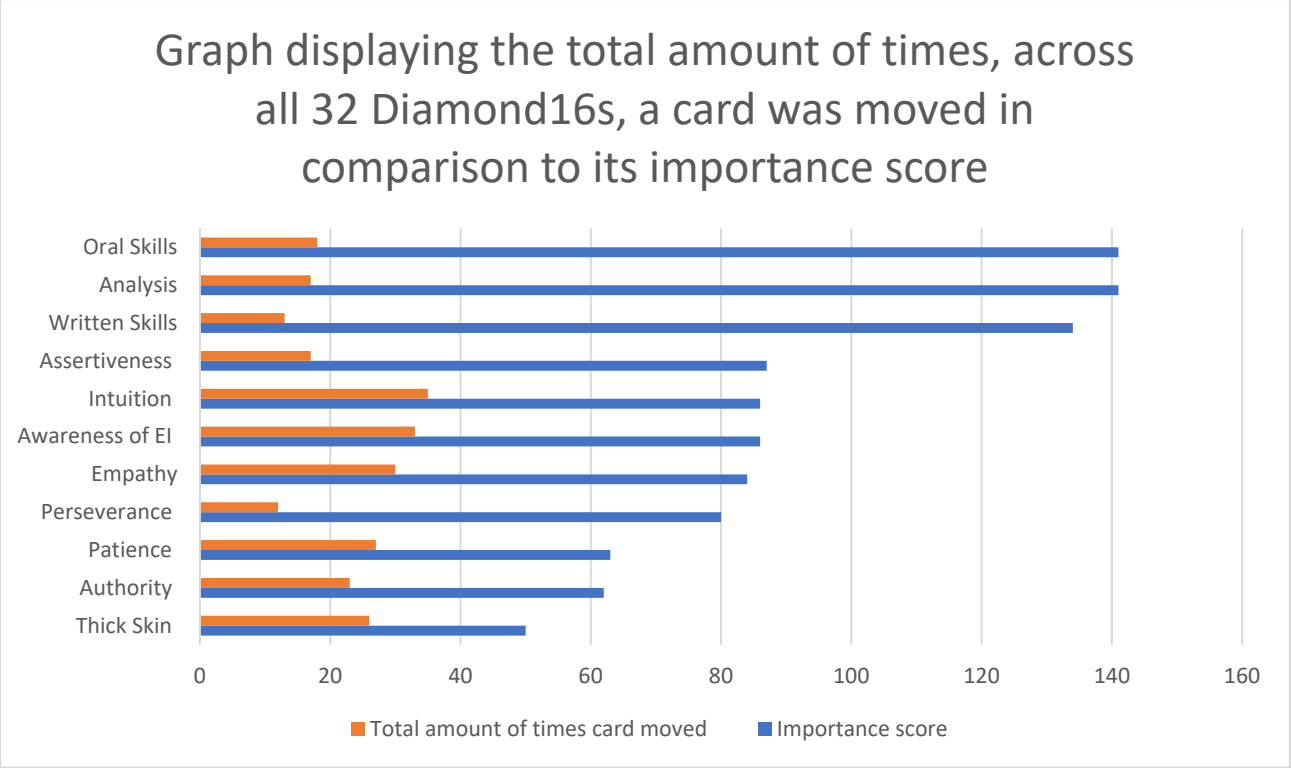
Graph 5 – Amount of Times a Card Was Moved up or down across all Diamond16s[49]

This graph shows that most cards were moved down the board during the Diamond16 exercises more than they were moved up the board. Analysis was the only pre-determined card which was moved up more than it was moved down, and oral skills was equal in the amount of times it was moved. Apart from with awareness of ethical issues, a "soft" skill was more likely to be moved than a "hard" skill. It can be argued that the participants were more certain of their placement of

[49] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 186

the "hard" skills and the "softer" skills needed more deliberation. Lastly, the created cards were moved up the board more than they were moved down the board. An explanation for this is that the cards were usually created throughout the Diamond16 exercise, so participants would often move other cards down, usually the "softer" skills, to make space for their created cards to have a higher placement. If a participant thought a card was important enough to create it is acceptable to assume that they would like it to be placed higher in importance also.

What this graph doesn't tell us, however, is how the movement of the cards relates to the importance. Thus, I compared this with the pre-determined cards this using the following graph:



Graph 6 – Comparison Between Movement and Importance Score of Pre-Determined Cards[50]

This graph shows that the more important a skill is perceived the less likely it is to be moved, with perseverance as an outlier. This isn't consistent, with the lower the score showing more movement progressively, but does indicate that the more important a skill is perceived, the more fixed it is in its place. *Graph 5* above showed that perseverance was moved down 11 times and only up once and from *Graph 4* that it was most likely to be placed on the middle line and below. Thus, this skill started quite low and was not moved up the board more than once, explaining why it is an outlier. It's perceived importance was so low that it remained quite immobile and often fixed in its placement.

The above explanation of the analysis and presentation of some of the data demonstrates how the Diamond16 has enabled me to delve quite deep into the data. The data available for analysis helped me show what was perceived to be important, but also the thinking behind this, both quantitatively and qualitatively. This is not all of the analysis which I engaged in during my thesis, but a illustration of what I found I could do with the Diamond16 board. I quickly discovered that I could collect many different kinds of data with each short Diamond16 activity. I also engaged with group comparisons, methodological analysis of movement and discussions of

[50] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 188

the cards and presented the data using a Venn diagram and other visual tools. I hope that the above explanations will help others who wish to use this tool in research and teaching.

Validity

As with any data collection, it is important to engage with some form of data validity. There are different ways in which to validate data and, whilst there is no right way in which to validate data, it comes down to, I argue, the kind of data which has been collected. I will not engage with a discussion of all of the different ways in which to validate, but rather how I validated my own data from the Diamond16.

Data validation is, 'epitomized by the question: are we measuring what we think we are measuring? In a broader concept validity pertains to the extent that a method investigates what it is intended to investigate.'[51] So, validity is making sure your method has measured what you are wanting and thought it would, becoming a kind of investigation which questions the theoretical findings and interpretations.[52] There are various ways in which to validate data and one method in triangulation is 'member checks.'[53] There are two ways to member check, and both or either may be

[51] Kvale, S., *Issues of Validity in qualitative research,* (Studentlitteratur, 1989), 74
[52] Ibid
[53] Creswell, J.W., *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, (SAGE, 4th edn, 2014), 251

used during the same data validation. The first is allowing participants to read over the raw data and check that it is accurate and add anything they think is missing on reflection or would like to clarify. The second is to read the discussion of the data, written by the researcher, and ask them if this reflects what they meant/said during the data collection. There are arguments for and against each method. For example, Creswell states that raw data should not be used, but that the researcher should use, *'polished or semi-polished product, such as the major findings, themes.'*[54] This way, the participant can check that the researcher's interpretation and presentation of their lived experience is accurate, rather than using the raw data with no interpretation.

I validated the Diamond16 with the students who did the exercise throughout the year. At the end of their last Diamond I presented them with printed photographs of their first two Diamonds. This meant that they could look at them all alongside each other and see how they had changed over the year. This led straight into a group interview, where we talked about the changing Diamonds and their perceptions of the knowledge, skill and attributes on the board. I also reminded them of discussions and comments made during the other Diamonds, read from the raw data. This gave them an opportunity to say why they had said certain comments and whether that opinion had changed. Once the Diamonds were validated, the rest of the interview focused on their experience in the clinic and how they felt about going on to practise. This worked very well for two reasons: I was able to validate the data with the

[54] Ibid

group, at the end of the process before they left the university and they also provided a nice tool and focus for moving into the group interviews.

Difficulties with the Diamond's collection and analysis

I did not come across many difficulties when collecting the data, but more when considering the dynamics of it. As with any data collection method, there are disadvantages or potential effects on the data which must be addressed and discussed. Further, when data collection involves using groups there are nearly always more dominant members of the group. When participants were arguing over where to place a particular card, there was always someone who had to recede their argument. This interaction between participants has been noted in research previously,[55] and some researchers will encourage this disagreement between participants.[56] It is highly unlikely that all participants will agree with each other in every different group, which may be frustrating for some researchers, but it can result in deep and rich discussion of the lived experience.[57] Whilst groups of participants can cause issues, however, using various groups does have its advantages. For example, it can create more reliability in the data, as 'if a series of groups are analysed concurrently, the researcher can determine the point at which there seems to be consensus on the range of issues deemed to be relevant of the

[55] Wong, L.P., 'Focus group discussion: a tool for health and medical research,' (2008) 49(3) Singapore Medical Journal 256, 260

[56] Kitzinger, J., 'The methodology of Focus Groups: the importance of interaction between research participants,' (1994) 61(1) Sociology of Health and Illness 103, 106-107

[57] Sim, J., 'Collection and analysing qualitative data: issues raised by the focus group,' (1998) 28(2) Journal of Advanced Nursing 345, 348

participants, even if determining agreement on each of these individual issues is not feasible.'[58] When I was presenting and discussing my data, I made sure to highlight where there was disagreement, and why, in order to give a voice to the individuals involved in the process, as well as a collective voice.

Though the data analysis of the Diamond16 board was relatively simple, there were some issues I faced. For example, when I was analysing the changes in opinions of the skills, I wanted to use an average score for each knowledge, skill and attribute, to discuss one average per group. This, however, proved difficult. I tried to work out the mean, median and mode for each group and mostly it came out mathematically pleasing, but there were instances where it did not. For example, when attempting to calculate the mean it could give a result of 2.5. Whilst I understood what this meant, it isn't actually a possible placement on the Diamond16 board and thus not representative of what was happening with the data.

When analysing the created cards, I was presented with some different issues. There were cards which were created as many as 13 times and some cards only created once, meaning that if I calculated the range of the placement of these cards, there was a distorted representation of what the scores and was actually happening in the data. Lastly, when the mode was attempted, there were occasionally multiple modes, which did not provide the clarity and statistical representation I wished to

[58] Ibid 348-349

portray. Thus, any attempts to analyse the data in this way had to be abandoned and the Diamond16 did not support it.

The Diamond in a Children's Secure Unit

Since completing my PhD, I have begun to use the Diamond9 in other areas of research. Most recently, I have had the privilege of researching in a Secure Children's Home (SCH), where Young People, aged between 10 and 17, are accommodated due to offending or those in the care of a Local Authority and placed there for their own welfare. The purpose of the study was to measure the changes in a Young Person's emotions before, during and after participating in a dance course. The aim was to explore whether dance enables young people to 'develop a pro-social identity, as well as contribute to building positive social networks.'[59]

The researchers worked with a dance company who were experienced with teaching dance in prisons and SCHs. The Young People were invited to participate in a weeklong course with the dance company and perform at the end of the week. The researchers carried out a Diamond9 exercise before the course started, in the middle of the week, and at the end when the final performance had concluded. The Young People were asked to rank 9 emotional statements, one of which was a blank card on which they could create their own emotional statement. The statements were a mix

[59] Arthur, R., Dunn, R. and Wake, N. 'Empowering Young People: Multi-Disciplinary Expressive Interventions Utilising Diamond9 Evaluative Methods to Encourage Agency in Youth Justice' (2019) 25 International Journal of Mental Health and Capacity Law 124, 125

of both positive and negative statements, such as 'I feel excited about my future' to 'I feel like no one understands me'. The most strongly felt emotion was placed at the top, decreasing until the weakest felt emotion was placed at the bottom. Whilst the purpose of this section is not to go into detail of the results, we found that the dance course did have a positive impact in the experience of the Young Person who participated, and this was easily tracked using the Diamond9. As the researchers did not have long to collect the data with the Young Person, the Diamond9 allowed us to explore their views and emotions quickly and in a way which encouraged participation. The Diamond9 results were then followed up and discussed a short time after during a semi-structured interview.

As discussed above, there are many instances of the Diamond9 being used with children in schools, but little for those who are kept in SCHs.[60] The use of the Diamond9 in this setting allowed for the researchers to collect data expeditiously, in a setting where we had little time to do so, and in a way which allowed to the Young People to engage with us. Whilst some have reported that photographs are better than written statements for Young People, and can help with literary anxiety, this was not suitable for those in the SCH.[61] We had to be careful with what we showed them, as certain Young People had emotional triggers, and we did not want to

[60] To note, a study by Thomas and O'Kane use Diamond Ranking with children who were 'looked after' by Local Authorities: Thomas, N. and O'Kane, C. 'Children's participation in reviews and planning meetings when they are 'looked after' in middle childhood' (2001) 4 Child & Family Social Work 221

[61] Clark, J. 'Using diamond ranking visual cue to engage young people in the research process' (2012) 12 Qualitative Research Journal 222

distress them in any way. We also had to do it individually with each Young Person, rather than in a group, for ethical purposes. The researcher doing the Diamond9 worked with the Young Person to complete it, reading out the statements. They also discussed the placement of the emotional statements with them, to gain qualitative data during the exercise.

The use of the Diamond in this study has been so successful, that we are working with researchers in New Zealand to replicate the study and compare findings. The most important aspect of using the Diamond 9 with these Young People was to give them a voice. The UN Convention on the Rights of the Child (1998), under Article 12, provides for children's participation in decision-making on matters which impact on their own lives. The Diamond9 allowed for this but, perhaps more importantly, it was a tool which 'promote[d] critical voices.'[62] Further, by giving the Young People a voice, it 'can also empower them to assume greater levels of participation and involve them as young citizens.'[63] The was one of the main aims of the study, and we found the Diamond9 provided an opportunity for Young People to have their voices heard and whilst we could measure whether they developed a 'pro-social' identity and built positive social networks. This would not necessarily have been done, or demonstrated as strongly, with the use of interviews alone. As a result of this study,

[62] Niemi, R. 'Diamond ranking as a tool to investigate pupils' experiences of classroom practices' (2015) 14(2) European Educational Research Journal 138, 147

[63] Clark, J. 'Using diamond ranking as visual cues to engage young people in the research process' (2012) 12(2) Qualitative Research Journal 222, 223

and the conclusions that dance and other art-based courses can provide Young People with an outlet for their emotions and a way to connect and work with others, the SCH has incorporated more elements of this into their teaching. They also noted a positive change in some of the Young People involved.

The practicalities of using the Diamond in this setting, however, were much more complex. We were not allowed to take electronic devises into the SCH, so all notes of discussions and placements of the cards had to be written. Further, as the week went on, we went from several participants to one. This was either because the Young Person no longer wanted to participate in the course, or were not able to due to their behaviour. Further, it took much longer to gain ethical approval, and the Diamond9 had to be approved by the SCH staff, who had to be present during the data collection sessions. Whilst we don't think this impacted greatly on the data collected, it is something we can to consider during the analysis. Using the Diamond in a different setting, and with Young People rather than university students, has helped to develop my understanding and complexity of this tool to a greater extent.

Uses going forward

As stated above, the Diamond can be used as a research tool and a teaching aid, and is often in the Student Law Office. I am aware that it is also used as a teaching tool at York Law School. Students are asked to complete the Diamond16 during their induction sessions, as an ice-breaker for the group members, which are kept by the

clinician during the academic year. Students are then asked to complete it again at the end of the year, before their first Diamond16 is revealed. This fosters discussion as to whether and, if so, how their perceptions of skills needed during the clinic have changed over the course of the module, basing it on the students' experience.[64] It seems as though the Diamond16 can help to foster discussions of what legal practice entails and how knowledge, skills and attributes can be developed. It can also be used for students to individually track their development and confidence. For example, it can be used for students to rank which skills they feel most confident with going into a clinic and which skills they feel as though they need to work out. Seeing it visually may provide a basis for the students working in the clinic and where to focus their development. I have also had some of my participants use the Diamond16 photos in their personal reflections at the end of the clinic, so that they can show their skills development and aid their reflective commentaries. Other research using visual methods has highlighted that for 'people unused to reflecting on their experience, visual methods may provide a stepping stone.'[65] They found it useful to discuss how their knowledge, skills and attributes have developed over the year using the Diamond16 as a visual aid, making them useful to those involved in my research as well as for my own purposes. If you are running a clinic and find students face difficulties with reflection, this could be a helpful and educational tool to use.

[64] The information was sent to me via email and is not published at the time of writing.

[65] Pain, H., 'A Literature Review to Evaluate the Choice and Use of Visual Methods,' (2012) 11(4) International Journal of Qualitative Methods 303, 308

I have also been informed that the Diamond16 is being used in recruitment for legal apprenticeships in law firms.[66] This will be as a result of giving the design to a law firm whom I collected data with, to use with their current and potential trainees. I am pleased that this method is proving useful to those outside of academia and demonstrates how diverse and beneficial it is. I hope to continue this work with law firms in the future, helping them to develop recruitment techniques.

I have my own personal uses for the Diamond16 going forward and I highlighted in my thesis other possible studies which could be conducted using the Diamond16.[67] I plan to use it for a larger, global study in the knowledge, skills and attributes needed for competent legal practice and an analysis of what is required in certain legal specialities. For example, in the literature surrounding knowledge, skills and attributes in legal education, there is debate as to whether we should be teaching generic legal skills, or skills more specific to an area of practice.[68] This is an interesting debate but with little empirical data to know if there is such a difference. The Diamond16 will be made as an online tool, which can be sent to lawyers across the globe in many different specialist areas. This will hopefully allow me to analyse

[66] This information has been passed to me informally, but I will be contacting the law firms to explore how they are using the Diamond16 and how effective they think it is.

[67] Dunn, R. *The knowledge, skills and attributes considered necessary to start day one training competently and whether live client clinics develop them* (2017) PhD thesis, Northumbria University, 289-291

[68] For example, please see Rankin, S.K., 'The Fully Formed Lawyer: Why Law Schools Should Require Public Service to Better Prepare Students for Private Practice,' (2013) Chapman Law Review, 2-3. Accessed via https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2259866; Grimes, R., 'Reflections on Clinical Legal Education,' (1995) 29 The Law Teacher 169, 171-172

whether there are some specific skills we should be teaching, or whether generic skills are what law schools should be aiming for. This will also enable me to do a geographical comparison, seeing which countries require which knowledge, skills and attributes and if there is a difference depending on where a lawyer is based. Further, in my thesis I discuss whether there is a difference between foundational legal skills and practical legal skills. There were suggestions that there are, but more in-depth research is needed to answer this question. These are two areas of further research which I wish to conduct, but there are others highlighted which I will not pursue empirically. For example, a study on which skills are perceived to be "hard" and "soft" and why those in the legal sphere think of them that way. There are many different ways to use the Diamond16 and I am excited to explore further opportunities with it.

In terms of furthering its use with Young People, a team within Northumbria Law School have been given funding to use the Diamond9 as a way to collect data with Young People who are detained in hospitals under the Mental Health Act 1983. The main aim of this project is to determine whether the information given to the Young People is suitable to their age and maturity, whether they felt they had received the appropriate information and their awareness of their rights in relation to their detention. It is hoped that the results of this project will also give a voice to Young People and involve them in the decisions which impact in their life.

Conclusion

Diamond ranking is not a new concept in research but has traditionally been contained within primary education research. This article shows how a method can be taken from one discipline and adapted for another, such as socio-legal studies. It can be used to track development, for comparison across groups and as a methodological analysis tool. As it is mixed methods, it collects both quantitative and qualitative data, adding some dialogue and explanation to numbers. It is quick and easy to use with relatively simple analysis. All graphs were made using Microsoft Excel, so no complicated or expensive data analysis software is needed, just some patience and time. Further, it can used to measure a variety of different uses, such as importance and feelings. This makes it a great teaching and development tool, as well as a research tool. Whilst the Diamond 'fulfils similar purposes to traditional techniques' of data collection, getting participants to engage with the visual can be 'more motivating for the respondents and [can] add a dimension of fun to the data collection exercise'.[69]

It is important to divulge in the research methods of other disciplines, to help advance our own and develop as researchers. The Diamond, for me, has been a great

[69] Wall, K., Higgins, S., Hall, E. and Woolner, P. ''That's not quite the way we see it': the epistemological challenge of visual data' (2012) International Journal of Research & Method in Education 1, 5-6

tool to work with and has inspired me to look for other innovative and creative ways to collect data.