Data wombling: what re-analysis of naturally occurring student data can tell us about courses, student performance and access to the legal profession.

Cath Sylvester, Rory O'Boyle and Emma Hall

I. Abstract

All education sites are data-rich environments and such is the embarrassment of riches that very little use is made of this data beyond its' initial purpose. Naturally occurring data about students' backgrounds, their previous attainment and their module by module progression are, in a sense, 'lying all over the ground' but the combination of data sets or longitudinal analysis rarely take place. This paper considers the strengths and limitations of using such secondary data through two projects which take inspiration from the Wombles and re-purpose this discarded data: using large-scale datasets to reveal the potential for more nuanced understanding of students' trajectories through legal education and towards the legal profession in England and Wales and in Ireland.

In the first project, raw data consisting of marks from 550 students graduating between 2014 to 2016 on Northumbria University's four-year M Law exempting degree is analysed to identify patterns in student's marks trajectories from year 1 achievement through to final degree classification. The second project is an analysis of Law Society of Ireland (LSI) data relating to a cohort of 405 students sitting the Final Examination First Part (FE-1) for the first time in 2013 and progressing through the Professional Practice examinations and subsequent stages to admission to the Roll of Solicitors. This project draws on raw data from initial applications and results at each stage of the process and identifies patterns and significant relationships between students' characteristics and backgrounds and their performance.

Simple linear assumptions about who can and should enter the profession are challenged by the findings from these projects and the potential to identify important developmental shifts and critical experiences on the way to qualification poses questions for curriculum design and improvements to legal education and access in both jurisdictions.

II. Secondary Data

I. Introduction & definition

The importance of secondary data analysis in social science generally has increased hugely[1], however secondary analysis is not used that widely in educational research[2]. Educational researchers are much more likely to simply make reference to findings from previous studies, rather than going back and reanalysing the primary data. However, the potential for secondary analysis in educational research would appear to be enormous, with large-scale high quality datasets freely available. For example, in the UK this includes data from the General Household Survey; the Labour Force Survey; the British Household Panel; the Youth Cohort Study; and the National Child Development Study[3]. Apart from such national statistics, researchers working within the third-level sector often have access to a vast

[1] G Glass, 'Primary, Secondary, and Meta-Analysis of Research' [1976] 10(10) Educational Researcher 3-8; C Papasolomontos and T Christie, 'Using national surveys: a review of secondary analyses with special reference to education' [1998] 40(3) Educational Research 295-310

[2] E Smith, 'Pitfalls and Promises: The Use of Secondary Data Analysis in Educational Research' [2008] 56(3)British Journal of Educational Studies 323-339

[3] C Papasolomontos and T Christie, 'Using national surveys: a review of secondary analyses with special reference to education' [1998] 40(3) Educational Research 295-310

amount of longitudinal data relating to student performance and progression which, again, has huge potential to reveal relevant trends and patterns which if understood could influence educational policy and the targeted deployment of limited resources. As Gorard states 'the range of sources for secondary data is now phenomenal'[4]. However Papasolomontos and Christie argue that 'it appears that analysis of publicly available datasets is not well established in educational research methodology' and that the 'potential for studies of educational progression and lifelong learning has not yet been exhausted'[5].

Glass defines 'secondary analysis' as 'the re-analysis of data for the purpose of answering the original research question with better statistical techniques, or answering new questions with old data'[6]. Rather than 'secondary analysis' or 'secondary data analysis', somewhat confusingly Teddlie and Tashakkori[7] prefer to term such data analysis simply as an 'unobtrusive measure' on the basis that the term is more inclusive. We will continue to use the term 'secondary data analysis', however, following Teddlie and Tashakkori logic it is certainly 'unobtrusive' in that it allows the researcher to examine the social phenomenon 'without interfering or changing it'[8]. Jary and Jary offer a broad definition of secondary data analysis as 'an enquiry based on the re-analysis of previously analysed research data'[9]. Such broad definition is welcome in that it encompasses the possibility of the data being re-analysed by the original researcher or by someone entirely different. It also encompasses the possibility of the data being re-analysed either for a new purpose or for the same purpose for which it was originally collected but using new statistical techniques.

B *Opportunities*

From a resource perspective the use of secondary data analysis in educational research allows researchers to use datasets the scope and depth of which most independent researchers would never be able to gather[10]. As Glaser succinctly puts it, secondary data analysis allows researchers with limited means to develop 'macro interests' on the basis of 'micro resources'[11]. In that sense the use of secondary data has the potential to 'democratise research', opening avenues to individual researchers and poorly funded organisations which are free to use top-class data for the research purposes. The quality of secondary data that is freely available can be of a much higher standard and hence of greater authority than the vast majority of primary data that most independent researchers could hope to generate in a small scale projects[12]. Another advantage of secondary data is that it is unobtrusive, not requiring additional collection of data from the original source[13]. Secondary data also provides researchers with the opportunity to engage in longitudinal studies[14], for example using student performance records collected over a long period and for a different purpose so as to identify patterns

[4] The Role of Secondary Data in Combining Methodological Approaches, Educational Review 235
[5] C Papasolomontos and T Christie (n3) 299
[6] G Glass, 'Primary, Secondary, and Meta-Analysis of Research' [1976] 10(10) Educational Researcher 3-8
[7] A Tashakkori and C Teddlie, *Foundations of mixed methods research integrating quantitative and qualitative approaches in the social and behavioral sciences* (1st edn, SAGE Publications Inc 2009)
[8] G Glass (n6) 3
[9] D Jary and J Jary, *Collins Dictionary of Sociology* (3rd edn, Harper Collins 2000) 540
[10] E Smith, 'Pitfalls and Promises: The Use of Secondary Data Analysis in Educational Research' [2008] 56(3)British Journal of Educational Studies 323-339; S Gorard, 'The Role of Secondary Data in Combining Methodological Approaches, Educational Review' [2002]54(3) Educational Review 231-237
[11] B Glaser, 'Retreading research materials: the use of secondary analysis by the independent researcher' [1963]6(10) The American Behavioural Scientist 11
[12] S Gorard, 'The Role of Secondary Data in Combining Methodological Approaches, Educational Review' [2002]54(3) Educational Review 231-237
[13] A Tashakkori and C Teddlie (n7)
[14] E Smith (n10)

and correlations between variables over time. Secondary data analysis also permits triangulation, whereby data from other sources can be compared with secondary data[15]. Secondary data can also help define the problem or research question that might then be subject to closer scrutiny by means of primary research[16].

Secondary data analysis must address the issue of compatibility[17]. However, in this there is a high degree of potential flexibility. The researcher can review the characteristics of both the current and previous populations to see if they are sufficiently similar to permit comparisons. If they are not, the researcher can take a suitably similar sample from the previous data in order to facilitate such comparisons. Also, the variables used in the past research may not be exactly what is required to test the conceptualisations of the present research. However, the researcher also has the option of taking-up previously identified variables that were not published in the previous research or he/she can clarify the variables that were presented. In this regard, Glaser states that 'most important of all he can construct variables (indexes) which indicate present concepts'[18]. For example, class may not be accounted for in the original data gathering, but the researcher may be able to 'construct variables' which in turn indicate class. Also the research question of the secondary analysis does not have to resemble the original research question. As Glaser states, the researcher may 'look at all the possible relations between variables to search for findings that are needed for application to the present problem'[19]. The researcher may also choose to contact those who collected the original data to fill-in the gaps to clarify issues relating to the data. When working inside the organisation in which the original data was collected, then such clarification is an easier proposition. Another advantage is that in order to research, you sometimes have to make the case that a problem or research opportunity exists. Using secondary data may facilitate the making of that argument in a cost-effective and time efficient manner, persuading relevant decision makers the further research is required[20].

Secondary data analysis is also 'non-reactive' to the extent that the individuals who are under observation are not aware of it and are therefore not responding or reacting to it. One of the strengths of secondary data analysis therefore is that it does not contain the flaws of self-reporting measures whereby participants might react in a 'suspicious or distrustful manner, thereby skewing the accuracy of their responses'[21].

Teddlie and Tashakkori define the typology of what they term 'unobtrusive measures' (in our terminology secondary data analysis) as comprising of several potential components including 'artefacts', one such artefact being 'archived databases from research studies conducted previously'[22]. In both the Law Society of Ireland and Northumbria University, the archived databases from which we draw our data are the extensive data sets relating to students' assessment performance and their progression towards qualification.

C *Potential limitations*

[15] Ibid
[16] Ibid
[17] B Glaser, 'Retreading research materials (n11)
[18] B Glaser, 'Secondary analysis: a strategy for the use of knowledge from research elsewhere' [1963] 10(1)Social Problems 71
[19] Ibid 70-74
[20] Ibid
[21] C Papasolomontos and T Christie (n3)
[22] A Tashakkori and C Teddlie (n7) 223

The use of secondary data is often open to criticism, the main critique being that the data is full of errors or as Bulmer states it is 'vitiated with error'[23]. The data is often collected for a different purpose with the researcher being far removed from the actual data collection, and as such, may have a limited understanding of the usefulness and limitations of the data. However to focus exclusively on the criticism is it is to miss the potential benefits that the use of secondary data presents. The risks inherent in such valid criticisms can be mitigated by for example maintaining a healthy scepticism with regards to the quality of the secondary data. Indeed such a healthy scepticism would be an essential perspective to maintain regardless of the source or form of the data, in that all data contains errors.

Another important criticism of secondary analysis of numeric data (which both the present case studies are concerned with) is that multifaceted social science research questions are not amenable to being understood by reducing the complex phenomena and numeric data[24]. However, again the risks in this potentially valid criticism can be mitigated. For example, once the trends and patterns have been identified there is the potential that the numeric secondary data can be supplemented with more in-depth analysis of specific issues using qualitative methods (e.g. focus groups, in-depth interviews etc.) to then better understand the phenomena under review. As Smith states 'secondary data can provide a window to the social world, it can help identify trends and any qualities which further enquiry, often using in-depth research methods, can explore'[25].

When working with smaller scale non-Government generated data, preservation of and indeed access to the original data may be an issue. As Glass (1976) states 'you can get access to the data if you have chutzpah or if you are sociometrically well-connected'[26]. However if working within the institution that was originally responsible for collecting the data, both issues relating to accessibly and indeed preservation are more readily addressed.

D *Use of numeric data*

Secondary data can of course refer to both numeric and non-numeric data. Non-numeric secondary data can include 'data retrieved second hand from interviews, ethnographic accounts, documents, photographs or conversation' (Smith, 1980). However, for the purpose of our research, we are primarily concerned with numeric data. Gorard argues that in general, educational researchers make poor use of numeric data, with even the most senior academics published in the most prestigious journals either misrepresenting or misinterpreting basic numeric data, stating that that it isn't that numeric data is not used in educational research, but 'rather that no one seems to care about inconsistencies between evidence and the conclusions drawn from it'[27]. However, in truth most numeric data analysis in educational research is more often than not based on relatively basic mathematics.

According to Gorard, educational research in the UK developed in the 1970s with a new generation of academics using improvised qualitative methods[28]. They worked in small-scale studies and in isolation from each other and in general did not use numeric data. This has now added to what is a serious

[23] M Bulmer, 'Why don't sociologists make more use of Official Statistics? ' [1980] 14(1) Sociology 508
[24] E Smith (n10)
[25] Ibid 331
[26] Gene Glass (n3) 3
[27] S Gorard (n12) 231
[28] Ibid 231-237

shortfall in numerical literacy in educational research. Gorard argues that an increased use by educational researchers of numeric secondary data would begin to address this skills shortfall.

More generally, all research depends on engaging with the work of others, so ignoring the findings of quantitative researchers is not really an option. However, without a basic numerical literacy you either have to accept all quantitative based results without question, or else simply ignore those results, neither of which is an appropriate response. Gorard contents that what some researchers try to do is adopt a false middle ground, accepting numeric based findings of other researchers but only to the extent that they agree with those findings in the first place[29].

Another issue with reducing complex data to numeric form relates to categorisation[30]. By way of example, for those entering the solicitor profession in Ireland, one variable of interest is the performance of those that have an undergraduate law degree against those who do not hold that qualification. However, this seemingly straightforward categorisation is complicated by the proliferation of hybrid degrees. However, this complicating factor does not mean that such an analysis is not possible or useful, it merely means that the data has to be closely reviewed to ensure accuracy of categorisation and, if necessary, returning to those who originally collected the data to is possible seek clarification[31].

E *Theory Development*

Secondary data analysis has been linked to descriptive analysis, a form of research sometimes viewed as being of lower academic value. However, this is not necessarily the case. One of the advantages of using secondary data is that it is usually cheaper than collecting original data. There is also a significant time saving involved. Therefore, secondary data analysis can facilitate theory development because it potentially frees the researcher from what more often than not is a time-consuming data collection process[32]. As Hakim states secondary data analysis can enable researchers to 'think more closely about the theoretical aims and substantive issues of the study rather than the practical and methodological problem of collecting the data'[33]. From a theoretical perspective, Smith identifies that secondary data analysis also has a valuable contribution to make with regards to the 'new political arithmetic'[34]. Smith quotes Power and Rees as stating that the political arithmetic tradition 'is an approach which seeks to describe the current state of society with a view to exposing inequalities'[35]. Political arithmetic has a long history dating back to the 17th century. It was 'political' in the sense that it sought to influence government and 'arithmetic' in that it sought to use numeric data do so. However, from the 1960s onwards the theory fell out of use as the 'paradigm wars' saw the pre-eminence of qualitative research emerge in the field of social science. More recently there has been a renewed interest in what is termed as the 'new political arithmetic'[36] . The new political arithmetic again seeks to influence government policy to mitigate against inequalities, however this time using a combination of numeric data analysis to identify emerging themes, followed by more in-depth qualitative techniques to better

[29] S Gorard (n12)
[30] E Smith (n10)
[31] B Glaser (n18) 70-74
[32] Ibid
[33] C Hakim, 'Secondary analysis and the relationship between official and academic social research' [1982] 16(1)Sociology 16
[34] E Smith (n10)
[35] S Power and G Rees, 'Making sense of changing times and changing places: the challenges of the new political arithmetic of education' [2006] 2 Paper presented at the British Educational Research Association Annual Conference, University of Warwick, 6–9 September 2006
[36] Ibid

understand these themes and patterns, in essence a mixed methods research technique. In educational research, it is contended that there is wide scope to use pre-existing numeric data to contribute to this new political arithmetic. Most large-scale secondary datasets gathered by Government departments are accessible, meaning that they are amenable for use by all researchers, not merely by statisticians. Within third level organisations, there is also a wealth of numeric longitudinal data of students' performance. Such data analysed together with known variables, such as previous educational attainment, age and gender etc., can be used to discern trends and patterns the findings of which could potentially be used to influence policy in accordance with the new political arithmetic tradition. As Papasolomontos and Christie state 'very few educational researchers are taking advantage of these opportunities (i.e. using secondary data analysis) at a time when issues addressed in the surveys are top of the political agenda'[37].

F *Other Higher Education and Legal Education and Training studies using secondary data*

The studies described in this paper draw on raw data from application records and student marks (LSI) and student marks and end of year averages (Northumbria University) arising during the course of Higher Education study and professional legal education and training. Studies drawing on secondary data in the Higher or Professional legal Education setting are limited and those that do exist are from a range of jurisdictions which adopt substantially different routes to qualification. However, such studies do give an indication of significant factors and make useful observations regarding the limitations of data.

Smith and White[38] considered data from 38,000 UK domiciled undergraduates from one 'elite' British university between the period 2001 to 2009. One of their research questions was to identify any relationship between student characteristics and degree success. They concluded that the strongest relationship existed between attainment on entry to Higher Education, sex and ethnicity. The study acknowledged that the variables they considered were limited by what was available in the records and that other factors such as student motivation and engagement, quality of teaching, which may have a considerable effect on degree success were not included. A more extensive survey conducted by the Department of Education[39] to assess whether final degree classification could be predicted from GCSE results as opposed to AS level results following the change to AS level qualifications announced in 2013 was critiqued by Johnston et al[40]. The survey drew on results at GCSE level and degree level from 88,022 students and concluded that degree performance could be predicted correctly in 70% of cases. Johnston et al highlighted a number of defects in the study including the fact that all four year and unclassified degrees were excluded from the data. This selective use of the raw data excluded almost entirely those studying medicine, those at Scottish Universities where a four-year programme is the norm and many science and engineering programmes which are integrated masters programmes. In addition, in such a large dataset some of the raw data was imperfect with at least 8,000 observations lacking a key piece of information. The comparison also drew on 'good degree'

[37] C Papasolomontos and T Christie (n3) 305

[38] E Smith and P White, What makes a successful undergraduate? The relationship between student characteristics, degree subject and academic success at university [2015] British Educational Research Journal 41 4 686

[39] Department of Education (2013c) A comparison of GCSE results and AS results as a predictor of getting a 2:1 or above at university supporting analysis. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/200903/GCSE_and_AS_level Analysis_3_1, pdf.

[40] R Johnston, D Manley, K Jones, R Harris, A Hoare, University Admissions and the Prediction of Degree Performance: an Analysis in the Light of Changes to the English Schools' Examination System [2016] 70 Higher Education Quarterly 1: 24

results from all UK Universities making an assumption that such classifications are standardised when they are not showing some of the limitations in using secondary data.

Whilst most studies have drawn on routine information relating to academic and social variables and their impact on degree success a number have focussed on the relationship between curriculum organisation and academic success. Concerns over a high dropout rate at the end of year 1 led Jansen[41] to study five groups of students across six different departments at the University of Groningen with a view to identifying what structures in the first year curriculum impacted on success in the first year of University. The study drew on standard documentation including prospectuses, timetables and the timing of tests and course delivery, student characteristics of age, sex, and study progress data. The study proposed a number of curriculum changes relating to the spread of assessment and programming of parallel courses however, it acknowledged that the findings could not take into account factors such as student motivation and study behaviour or external factors such as the availability of student loans. It did however acknowledge that 'we were able to map the curriculum organisation rather well' [42]indicating that use of this data can shed light on the impact of curriculum change by drawing on the detailed module plans and specifications that most Universities require as part of their quality assurance processes.

Within the discipline of law, studies drawing on routine marks data are limited. In the UK a 1987 study by Jennifer Craven- Griffiths[43] investigated the relationship between A Level results and degree classifications for students studying law at Trent Polytechnic. The legal employment landscape has changed dramatically since this study took place so its findings have a largely historic significance. However the findings were clear that whilst A level results 'may be indicative of a basic ability to complete degree courses successfully, they do not predict degree classifications'[44] . Studies from America are more prevalent and draw on a more extensive set of data on academic marks due to the postgraduate nature of Law School study. In these studies the researchers were able to utilise applicants' undergraduate study achievements in the form of grade point averages (GPA) and the results from the entry exam for Law School, the Law School Admission Test (LSAT). In a longitudinal study Marks and Moss[45] compared data from these tests from two law schools and 1,400 students from 2005-2011 and drew on routine data relating to student characteristics from original law school applications on employment, extracurricular activity and criminal/disciplinary records and records from law school careers services on post graduate employment. The study coded non-digitised applicant information and used multivariate regression analysis to predict law school grades. They found correlations between achievement and subject discipline of the first degree but less so between LSAT and Law School achievement. They also found a strong correlation between previous employment experience and law school success. More extensive studies have gone further and followed graduates into the profession and using a combination of raw data from law school achievement scores, follow up interviews, focus groups and alumni surveys, investigated if there is any correlation between LSAT and lawyer effectiveness.[46]

---

[41] EPWA Jansen, The influence of the curriculum organization on study progress in higher education [2004] Higher Education 47 411

[42] Ibid 428

[43] J Craven- Griffiths, Predicting success: A research study based on law degree courses at Trent Polytechnic [1987] 21 Law Teacher 156

[44] Ibid 156

[45] A Brunet Marks and S A Moss, What predicts Law Student Success? A Longitudinal Study Correlating Law Student Applicant Data and Law School Outcomes [2016] 13 Journal of Empirical Legal Studies , 2 205.

[46] M M Schultz and S Zedack, Predicting Lawyer Effectiveness: Broadening the Basis for Law School Admissions Decisions [2011] 36 Law and Social Inquiry 3 620

Though many of these studies give indications of the significance or otherwise of a number of variables on performance in Higher Education it is clear that they are highly context dependent. They are influenced by the nature of the discipline, the character of the faculty or University as well as the higher educational system, curriculum design and route to qualification specific to the jurisdiction. However, despite these limitations they can inform course development and delivery when considered in the localised context of our own Law Schools.

II. The Studies

The following two studies draw on secondary data available in the LSI and Northumbria University. Both analyses consider what this routine data can tell us about students' progress through the significant stages on route to qualification as a solicitor in the English and Welsh jurisdiction and in Ireland. In Part A student marks from a four year M Law programme at Northumbria University are analysed to track academic achievement through an integrated masters programme which incorporates the Qualifying Law Degree and the Legal Practice Course. In Part B data available to the LSI is used to track progress of an intake of students from initial entrance exam to admission to the roll of solicitors.

A *Part A*

1. Paths to qualification as a solicitor in England and Wales.

Legal education and training in England and Wales is regulated by the Solicitors' Regulation Authority (SRA). The routes to qualification as a solicitor are currently under review and substantial changes are to be introduced in or after September 2020 following the approval by the Legal Services Board of the introduction of the Solicitors Qualifying exams (SQE) part 1 and 2 in March 2018. SQE will be centrally set assessments replacing the QLD and LPC elements of the current route to qualification[47]. However, throughout the period of this study the most common route to qualification is the 'graduate route' which requires students to either hold a Qualifying Law Degree (QLD) or other degree followed by a Graduate Diploma in Law (GDL) which is a conversion diploma covering the seven foundations of legal knowledge making up the core elements of the QLD. The foundations of legal knowledge are specified in the Joint Statement of the Law Society and General Council of the Bar 2002[48] on the academic stage of training and provide very broad guidance on foundation knowledge content. QLDs are also required to meet the requirements of the QAA benchmark for law[49] which does not specify discipline knowledge but refers to academic and legal skills and defines what can be expected of a law graduate in terms of 'what they might know, do and understand at the end of their studies'.

On successful completion of the academic stage of training through a QLD or GDL students wishing to qualify as a solicitor must take the Legal Practice Course (LPC), the vocational stage of training. The LPC is described as preparing students for training and early years of practice. It consists of two stages the first covers the three essential practice areas of Business Law and Practice, Property Law and

[47] For further information see www.lawsociety.org.uk/policy-campaigns/consultation -response/a-new-route-to-qualification/

[48] Joint Statement of the Law Society and General Council of the Bar, 2002 accessed at www.sra.org.uk/students/academic-stage-joint-statement-bsb-law-society.page

[49] Subject Benchmark Statement Law: July 2015, UK Quality Code for Higher Education. Part A, setting and maintaining academic standards. Available from www.qaa.ac.uk/publications/information-and-guidance

Practice and Litigation together with legal skills, professional conduct and tax, wills, probate and administration. Part 2 consists of three vocational electives.[50]

The final stage of training is the training contract or period of recognised training. Students must work as a trainee solicitor in firm of solicitors or other organisation authorised by the SRA to take trainees normally for a period of two year although this may be reduced where students already have some relevant experience. The SRA regulates the training contract and students should be able to demonstrate that they satisfy the 'day one outcomes'[51] expected of a solicitor on qualification before being able to request admission to the roll and obtain a practising certificate.

In addition, there is a non-graduate route into the profession through the Chartered Institute of Legal Executives (CILEx), which requires the attainment of Ilex qualifications and employment in Ilex approved legal employment. However entry to the profession through this route is far less common (3.9% of admissions to the roll in 2016) as opposed to entry through the QLD / GDL route (86.5% in 2016)[52]. Since 2016 a new apprenticeship route to qualification has been introduced. Students taking these routes into the profession are much smaller in number than through the graduate route.

For students wishing to qualify as a barrister after completing the QLD or GDL a separate vocational stage is required in the form of the Bar Professional Training Course (BPTC). This is followed by pupillage consisting of a non-practising six months and a practising six months. Completion of pupillage fulfils the requirements for a career as a barrister in England and Wales.

Northumbria University is one of six Universities validated to deliver a programme which combines both the academic and vocational stages of training in the form of an exempting law degree. At Northumbria this takes the form of a four year integrated masters in law programme (the M Law). This programme has two routes one of which exempts students from the LPC and the M Law Bar exempting which exempts students from the BPTC. The programme came into being in 2008 and was the successor to the LLB exempting degree which was first delivered in 1993 and was the first programme of its kind in England and Wales. The course was unique and aspired to the recommendation of the ACLEC report[53] that law degrees should be a 'coherent and integrated course, and that the teaching of appropriate and defined skills is undertaken a way which combines practical knowledge with theoretical understanding… the rigid demarcation between the 'academic' and the 'vocational' stages need to disappear."

2. Blocks to Qualification

The Qualifying Law Degree in the UK has maintained its popularity despite increased competition for training contracts and pupillages. In 2016/17 a record number of students (25,155) were accepted onto first degree law courses in England and Wales which represents a 3% increase from 2015 entry[54]. This figure does not include those obtaining a QLD through joint honours programmes or taking the GDL route so the number of students with the potential to enter the profession is significantly higher[55]. In the same year 15,950 students graduated with a law degree in 2016 an increase of 3.4% from the previous year and a 24% increase since 2006. This upwards trajectory is not mirrored by the number

[50] Overview of the Legal Practice Course and the regulatory framework, www.sra,org.uk/students/resources/legal-practice -course-information-pack. page
[51] Day one Outcomes available at www.sra.org.uk/news/day-one-outcomes-refined.page
[52] Law Society Annual Statistics Report updated June 2017, 51
[53] ACLEC (1996) First Report on Legal Education and Training, Lord Chancellor's Advisory Committee on Legal Education and Conduct, Millbank Tower, para 2.2
[54] Law Society (n52) 39
[55] Ibid 41

of training contracts registered over this period. Training contract registration peaked in 2007/8 at 6,300 dropping to 4,869 in 2011/12 and currently standing at 5,728 in 2016. Whilst this represents a 5% increase from last year it is clear that the process of obtaining a training contract is a very competitive one. Add into the mix that in 2016 only three in ten law graduates in England and Wales failed to achieve a first or upper second degree it is perhaps understandable that academic achievement at every stage of a degree programme has become more significant in this competition for training contracts.[56]

The availability of training contracts are not evenly spread throughout England and Wales with over 50% being offered in London and 38% with very large firms of 81 partners or more. Of the 62 firms of this large size, 48 have their head offices in London. The recruitment practices of these large London based practices are therefore very significant as a relatively small number of firms control the highest proportion of training contracts.

This picture reflects the graduate recruitment market in general in the UK with the importance of good academic credentials emerging ad a pre requisite for entry to graduate employment. The Association of Graduate Recruitment reports that 75% of all graduate employers will only interview candidates with an upper second class degree[57]. According to Feng and Graetz[58] the economic reward attached to a 2.1 degree is 7% higher than that of a 2.2 degree.

The importance of gaining a good degree has never been more significant and therefore understanding how students achieve good degrees through the period of their study and how the Law School curriculum should be delivered to facilitate this is of interest. Academic achievement at the earlier stages of the degree is also increasingly important because many law firms use vacation placements in the penultimate year (year 2 in a 3 year programme) of study as part of its recruitment process. Five of the top UK ranked firms for banking and corporate work[59] offer vacation schemes and opened the training contract application process to penultimate year students. In some cases firms specify the need for strong A level performance and request that applications are not made until after year 2 results have been obtained.

The significance of early academic achievement as an indicator of degree classification is a widely held assumption by employers. This has some basis in research as evidenced by Smith and White's paper[60] which found that students entering the studied University with A levels at AAB and above were more than four times as likely to achieve a degree at 2.1 or above. Whilst employers typically use multiple processes to recruit trainees such as assessment centres, psychometric testing and vacation placements, an important initial filter is academic achievement at each stage of the degree as an assumed early indicator of degree classification.

The assumption is also a factor in limiting student choice of programme routes and modules. Students may be excluded from taking certain modules or programmes on the basis of these early years' marks. At Northumbria entry to the M Law BPTC exempting programme is restricted to students achieving certain marks, in some Law Schools participation in clinical modules is restricted through a process of

[56] Ibid 42

[57] AGR (2012) Graduate starting salaries continue to rise beyond predicted levels, Association of Graduate Recruiters Press Release, July 2012. Available at www.agr.org.uk/Press-Releases/Graduate-starting-salaries-continue-to-rise-beyond-predicted-levels#.Ud1xQzusiSo

[58] Feng, A. & Graetz, G. (2013) University exam results matter, CenterPiece, Summer 2013. Available at http://cep.lse.ac.uk/pubs/download/cp395.pdf

[59] Chambers UK 2016 ranking, Chambers Student Guide available at www.chmabersstudent.co.uk

[60] E Smith and P White (n39) 686

selection with reference to prior grades and acceptance on most LLM programmes is often dependent on certain marks and overall classification.

3. Analysis of statistics from Northumbria:

The Northumbria Law degree has had a clinical element in the form of the Student Law Office (SLO) since 1980s. On the introduction of the exempting degree this module became a compulsory year 4 capstone module for all students. Students taking the SLO module advise and represent members of the public on real legal cases under the supervision of qualified members of Law School staff. The SLO module reflects the Law School's commitment to experiential learning and the integration of law with practice throughout the whole of legal education and not limited to the vocational elements of the programme. The educational principle underlying the integrated approach is two-fold. 'First, that students will understand and engage with the law more effectively if they learn about the practical, social, political and economic contexts in which that law operates. Secondly, that ethical awareness, skills development and practical application of the law is enhanced if it takes place at a time when students are developing a deeper understanding of the law by way of academic inquiry. 'Integration takes place therefore on two levels: (i) a structural level whereby the academic, vocational and training stages of legal education are completed in one package and (ii) at a pedagogic level whereby different teaching and learning methodologies are combined to produce a mix of traditional and innovative approaches'. [61]

As can be seen from figure 1 below integration is an element of the programme from year 1 through modules such as Crime, Litigation and Evidence (year 1) and Tort Litigation and Evidence (year 2). In year 3 students undertake a problem based learning, skills orientated training programme to prepare them for the legal skills and the unstructured nature of real client casework in the SLO in year 4. In many of the practice orientated subjects such as the Law of Business Associations and Advanced Property Law and Practice as delivered in year 3 as well as a range of options. In year 4 the dominant modules are the Student Law Office, real case clinical module and the 15,000 word undergraduate dissertation.

MLAW (EXEMPTING) DEGREE (2015)

Year 1	Contract		Disputes 1 (Crime, lit and evidence)	Public 1 and Foundations of EU/ELS	Key Skills for Employability
Year 2	Land	Trusts	Disputes 2 (Tort, lit and evidence)	Public 2 – Constitutional and Admin law and Human Rights	Problem Based Learning option
Year 3	Advanced Property Law and Practice / Wills and Solicitors Accounts		Law of Business Associations	Juris-prudence / Half option	SLO yr 3

[61] M Law Definitive Course Document 1998, Northumbria University

Year 4	SLO	Dissertation	Option 1	Option 2

Figure 1

The aims of the programme are committed to integration and the assumption that the subject discipline of law and its intellectual skills are more effectively learnt when contextualised in the practice setting. In addition, involvement in real or simulated complex case studies will develop legal skills and foster an early awareness of professionalism through ethics, client care and professional responsibility. Whilst there is a wealth of pedagogic writing in support of active learning in a practice setting[62] and a forceful and enduring Clinical Legal Education lobby which advocates the benefits of the vocational law School[63]very little analysis has actually taken place of the impact of these modules within the curriculum and on overall student performance. A study by Hatamyar and Sullivan in the post graduate setting of US law school carried out a study on the effect of involvement in active learning on law school grades and made tentative findings that 'student's attendance at Active Learning sessions was positively and significantly related to first year grades. Moreover, it appears likely that this positive relationship continued through the third year of law school'.[64]

Anecdotally the role of the law clinic module in particular was identified by staff and student alike as having a high impact on their learning,[65] and to a lesser extent on their professional development[66] and on their preparedness for practice but in basic terms we had never looked at marks across levels and cohorts to see if there was any evidence of 'value added' or 'increased velocity' from the practice orientated modules. The structure of the M Law includes core subjects which are broadly traditional in terms of 'black letter law' content delivered using traditional lecture/ seminar delivery. At the same time, students are studying subject areas which are heavily contextualised in practice using complex case studies and authentic documentation. In the final two years of the four year programme the real client clinical module and clinic preparatory modules introduce additional complexity in the form of simulated or real case work honing practical legal research and writing skills, interviewing, advising and negotiating and skills around case planning, strategy and management. The nature of the M Law with its often distinctive components and the existence of substantial amounts of raw data around students' achievement led us to consider what if anything could be learned from this data about how students' progress through the programme and whether this should inform curriculum design to maximise learning at each stage of the programme.

4. Methodology:

Our initial enquiry was limited to using the marks profiles for the 2014 graduating cohort from the M Law programme to try and identify any significant patterns which might indicate what if anything the practice modules brought to the programme. From this some early patterns indicating at which stage in the programme the students marks started to align with their final degree classification resulted in

[62] W Sullivan, A Colby, J Wegner, L Bond, L Shulman, *Educating Lawyers: Preparation for the profession of law* [2007] San Francisco, Jossey Bass
R Stuckey, *Best Practices for Legal Education: A Vision and a Road Map* (2007) NY Clinical Legal education Association

[63] Amsterdam A, [1984] Clinical Legal Education- A 21st Century Perspective, 34 Journal of Legal Education 4 612

[64]P Hatamyar and T Sullivan, [2011] Active Learning and Law School Performance 3(2) Journal of Multidisciplinary Research 67

[65] C Boothby and C Sylvester, [2015] Getting the fish to see the water: an investigation into students' perceptions or learning writing skills in academic modules and in a final year real client legal clinic module 51:2 The Law Teacher 123

[66] P McKeown, [2017] Pro Bono: What's in it for Law Students? Student's Perspective International Journal of Clinical Legal Education 24(2) 43

us expanding the research to consider the marks profiles from 550 graduating students over three years from 2014 to 2106.

The structure of the programme remained largely unchanged throughout the period covered by the research. From September 2016 the structure was radically overhauled to meet a new Programme Framework for Northumbria Awards and to respond to new developments in legal education and training. The three completing years studied had substantially the same programme except for the introduction of Key Skills for Employability in year 1 in 2015. The study looked at all the available four year marks profiles from the graduating cohorts in 2014, 2015 and 2016. A total of 550 profiles.

Initially the raw data consisted of the year averages from the first three years of the M Law and the final classification achieved on completing the programme for all the students. However, the method of calculating the final degree classification changed during the period these students were studying at the University and all three sets of graduating students achieved a classification using a different formula. Initially final classification was assessed on the basis of using a 40/60% weighting for years 3 and 4. In 2015 the final classifications were assessed using a transitional formula and then the final new formula was used for final degree classifications in 2016. In order to ensure consistency when comparing the analysis of the raw data from each year we adopted a year average approach in year 4 as in previous years and converted all final classifications accordingly. This is referred to as the 'recalculated class'.

All references to class and recalculated class are based on the standardised boundaries in UK Universities so that a year average of 70% and above is a first, 60 -69% is an upper second (2.1), and 50- 59% is a lower second (2.2). The nature of the M Law exempting degree is that the pass mark changes from 40% in years 1 and 2 (40-49% is a third class), to 50% in years 3 and 4 to meet professional body requirements. In years 3 and 4 marks below 50 % are referred to as a fail.

5. Findings:

From the initial analysis it was clear that the classification students attained in year 1 was not indicative of their recalculated class in year 4. This caused us to consider how significant this shift was and how it occurred. Were the students who shifted class those who were close to the classification boundaries in year 1 or was a more significant shift happening? For this reason the raw data was refined and 'fuzzy' boundaries were introduced. These were the borderline marks either side of the boundaries i.e. 48- 51 borderline fail/pass, 58-61 borderline 2.2/2.1, 68-71 borderline 2.1/1st.

We were now in a position to see how predictive year1 classifications and borderline classifications were of final degree classification.

recalculated class * y1fuzzy Crosstabulation												
			y1fuzzy									
			solid first	first 2:1 borderline	solid 2:1	2:1 2:2 borderline	solid 2:2	2:2 third borderline	solid third	3 fail borderline	Other/defer/refer	Total
recalculated class	First Class	Count	6	10	17	2	9	0	1	0	1	46
		Expected Count	1.2	2.0	8.2	6.3	12.0	8.2	7.2	.6	.4	46.0
	Upper Second Class	Count	5	10	62	55	87	50	44	1	1	315
		Expected Count	8.0	13.5	56.4	42.9	82.1	56.4	49.0	4.3	2.5	315.0
	Lower Second Class	Count	0	0	6	8	28	31	25	4	0	102
		Expected Count	2.6	4.4	18.3	13.9	26.6	18.3	15.9	1.4	.8	102.0
	Defer/Refer	Count	2	2	7	5	10	10	10	2	2	50
		Expected Count	1.3	2.1	8.9	6.8	13.0	8.9	7.8	.7	.4	50.0
	Other	Count	0	0	0	0	0	1	0	0	0	1
		Expected Count	.0	.0	.2	.1	.3	.2	.2	.0	.0	1.0
Total		Count	13	22	92	70	134	92	80	7	4	514
		Expected Count	13.0	22.0	92.0	70.0	134.0	92.0	80.0	7.0	4.0	514.0

Figure 2

In contrast to the normal assumption that prior educational achievement is the strongest indicator of final achievement fig 2 shows that 10 students moved from the 1st/ 2.1 borderline to achieve a final first class classification in year 4 and a further 17 students shifted from 2.1 to first over the same period. Out of 46 students achieving a first class average in year 4, 87% were not solidly in the first class band in year 1.

This trajectory was more pronounced when considering the 2.1 final year recalculated classification. Assuming that borderline students in year 1 who go on to complete the course are more likely to move into a higher category than a lower category, a total of 132 students achieving firsts, 2.1s and borderline 2.1/2.2 (42%) of the participants achieved a 2.1 final recalculated class in year 4. However the remaining 58% of those achieving 2.1 final recalculated classifications had been in the solid 2.2 to solid 3rd class range in year 1. The majority of those achieving a 2.1 in the final year would have shown no indication of this in year 1. A significant finding given the emphasis on these marks by prospective employers and their significance in limiting student choice of certain modules or programmes in future years of study as well as their impact on student's confidence in their ability to study successfully in a Higher Education setting. Most Universities analyse marks from individual modules as part of their quality review processes but the longitudinal tracking of student grades throughout the programme is rarely analysed as part of this process. A body of results from a number of Universities would give an indication if this phenomenon is linked to the nature of the M Law programme or is in fact a common feature of the Law Degree.

We applied the same comparison to year 2 classifications and the recalculated year 4 class and found that disparity persisted into year 2. In was only on considering the year 3 profiles that we could see indications of the final year 4 recalculated class emerging.

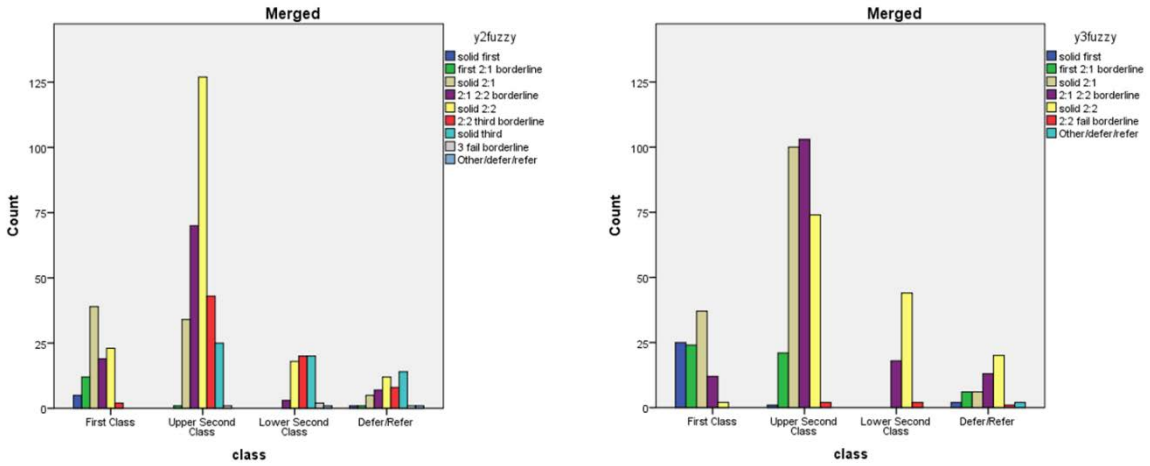


Figure 3

Figure 3 shows the change between year 2 and year 3 in the marks profiles of students achieving the 2.1 recalculated class in year 4. In year 2 the 2.1 recalculated class students were predominantly those showing a solid 2.2 profile, many more than those with a 2.1 profile at this stage. By year 3 the 2.1 recalculated class band was more evenly split between students achieving solid 2.1 and 2.1/2.2 borderline marks with a much reduced frequency of those in the solid 2.2 banding. The fuzzy grades had become much more closely predictive of the final recalculated class.

The sharp contrast between years 2 and 3 in terms of its predictability of recalculated class suggested something occurred during the course of the third year that had significant impact on students' marks. Returning to figure 1 there is a significant change in the nature of the subjects studied in year 3 with an increased focus on the practice setting and preparation for real practice in the year 4 Student Law Office (SLO) module.

The year 3 modules:

The SLO year 3 module is a skills orientated module with emphasis on intellectual legal skills such as research, fact analysis and application as well as on practical legal skills including a client interview, advocacy and legal writing. It adopts a part problem based methodology to prepare students for tackling unstructured questions in the 4th year real case clinical module. This module builds on practice elements delivered in the litigation modules in years 1 and 2 in terms of requiring students to analyse facts and present arguments in a practice context. Advanced Property Law and Practice builds on the more traditional black letter law module of Land Law studied in year 2 and involves a transactional approach to sale and purchase of property. Business Law and Practice incorporates both the academic and practice elements of business law as this is the first time students have encountered this subject area. Jurisprudence sat (somewhat uncomfortably) as a purely theoretical half module and students chose from a range of other optional modules (some with a practice orientation and others with a more theoretical base) as a final half option.

Given that year 3 was such a significant year we wondered if there were particular modules which were strong early indicators of recalculated class in year 4. The close alignment of the SLO yr 3 programme for the purpose of preparing students for SLO year 4 might be expected to be one such indicator. However, the other substantial year 4 core module was the undergraduate dissertation, a 15,000 word analysis of an academic area of law requiring traditional academic research, critical analysis and academic writing skills in a specialist subject area. We wondered if there was any observable relationship between the practice modules and the dissertation performance.

An analysis of the key year 3 module marks showed skewed distributions particularly in business law and jurisprudence where the mode mark was on the 50 % boundary. Property and SLO yr 3 had a more symmetrical (though still not normal) probability curve. We focussed on these modules.

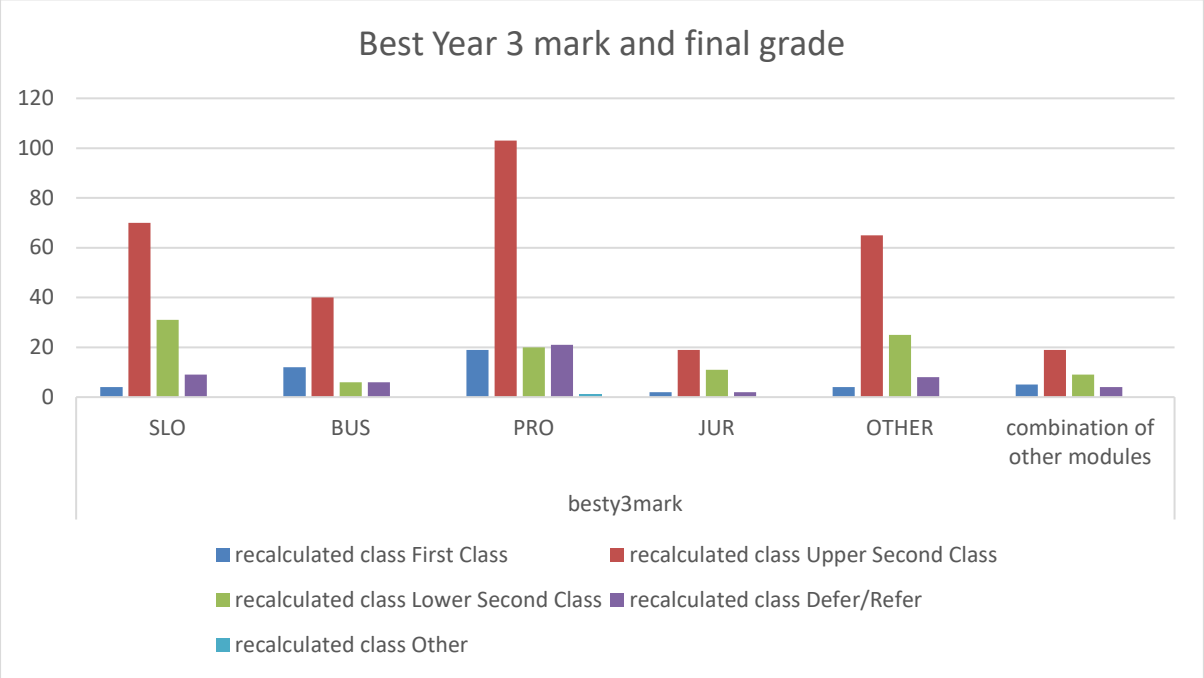


Figure 4

SLO year 3 is a simulated clinical module preparing students for real casework in the SLO year 4 module. Fig 4 shows that students obtaining their best marks in SLO year 3 had a strong correlation with students obtaining a 2.1 recalculated class overall and that the marks from the Property Law module were the best predictor of year 4 recalculated class. From this analysis it could be hypothesised that SLO yr 3 and Property Law modules have a boosting effect on year 4 achievement for a certain demographic of students.

We went on to consider the extent to which students whose best marks in year 3 modules correlated to higher marks in the core real casework yr 4 SLO core module.

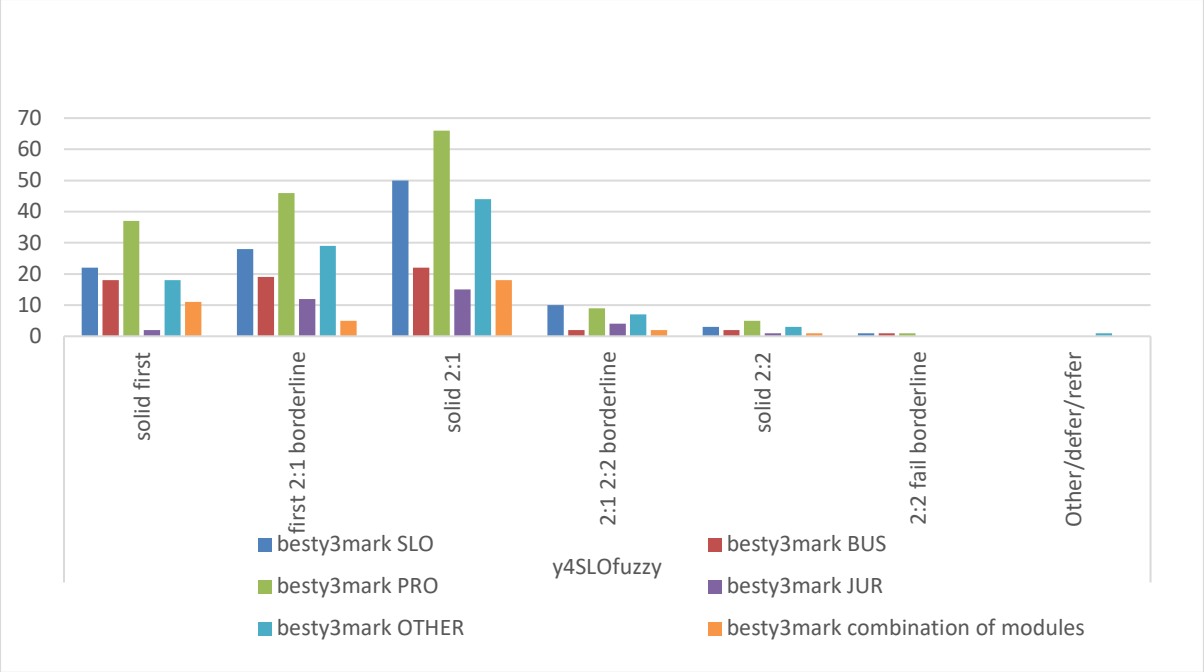


Figure 5 Best year 3 mark and achievement in year 4 SLO

Figure 5 shows a correlation between strong marks in Advanced Property Law and SLO yr 3 and high achievement in the SLO yr 4 module. There was a high frequency of students attaining a 1st class, borderline 1st/2.1 and solid 2.1 mark in year 4 SLO whose best year 3 marks were in the SLO year 3 module and Advanced Property module. In each classification band Advanced Property appears to have the strongest correlation.

Interestingly this pattern is maintained for the high achievement in marks in the dissertation (figure 6 below). The core subjects with the highest black letter law or legal theory content (Jurisprudence and Business Law) appear to be relatively weakly aligned to strong marks in the dissertation. In both figs 5 and 6 strong marks in the optional modules also bear a relationship to strong marks in the SLO and dissertation perhaps indicating that an element of self-determination over what is studied has some impact on marks.

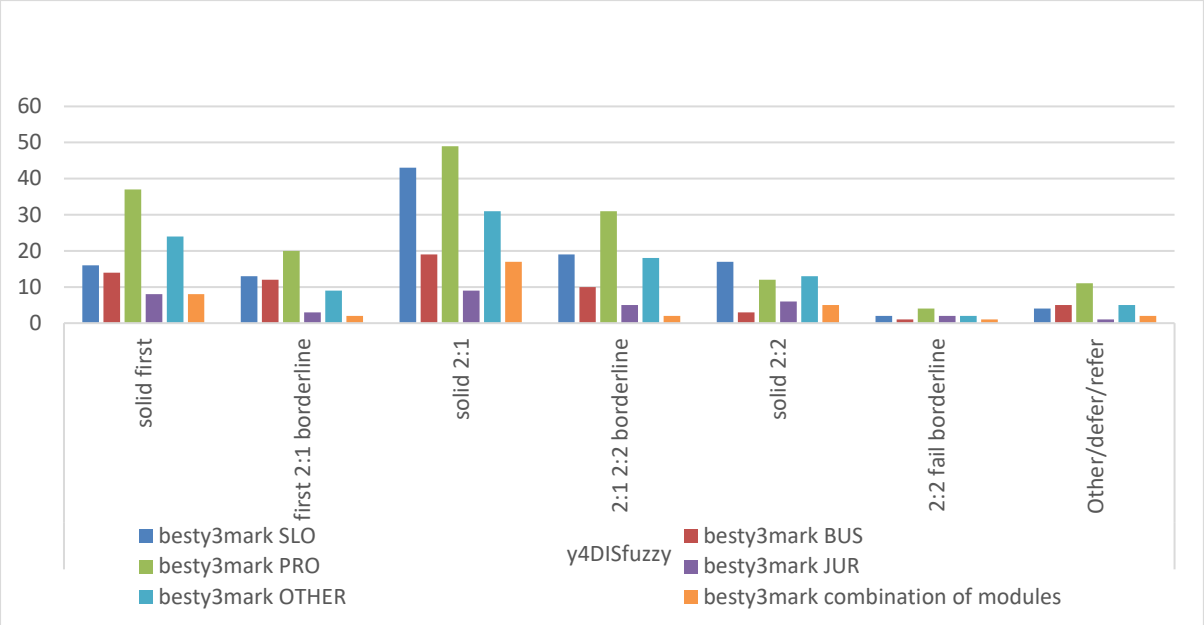
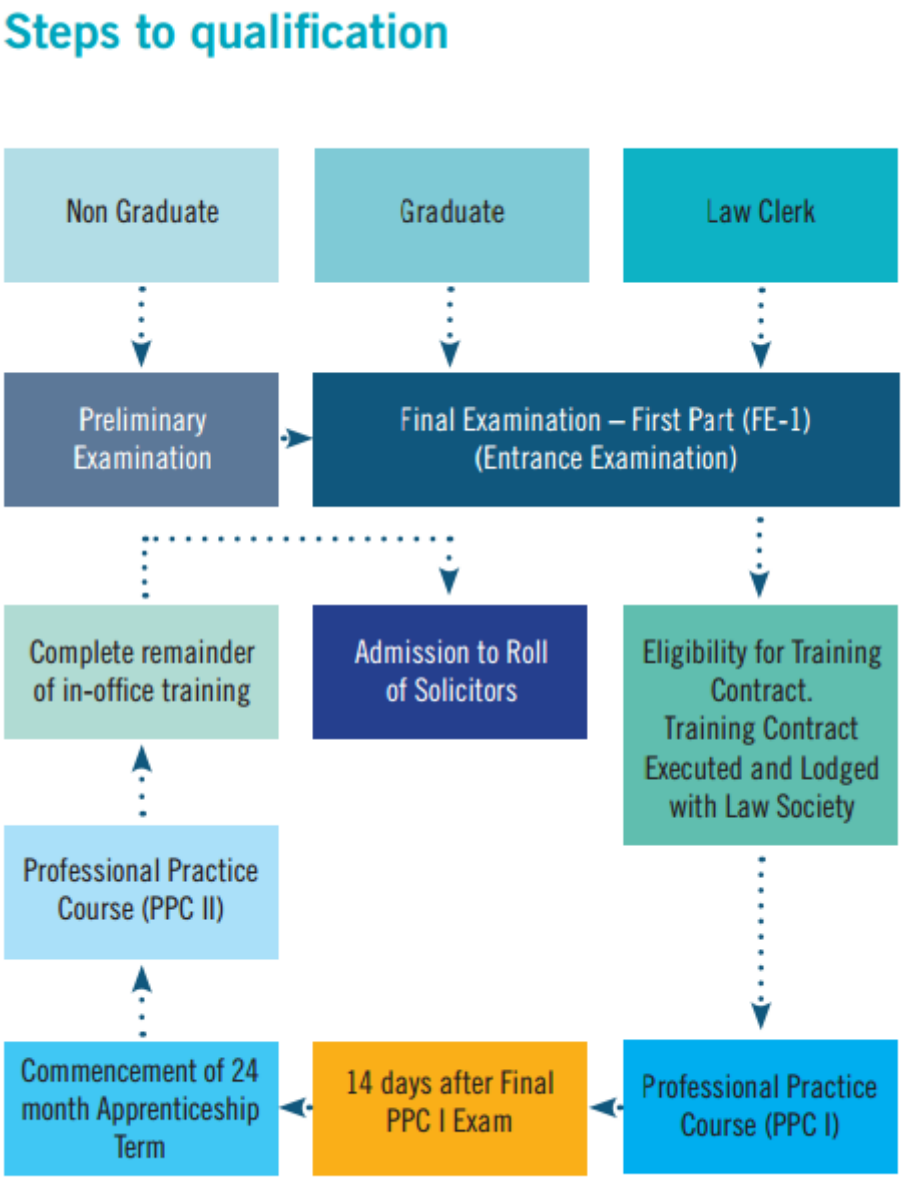


Figure 6 Best year 3 mark and achievement in year 4 dissertation

These conclusions are at best tenuous but give an indication of patterns worth further investigation through further correlation and regression analysis.

B Part B Path to qualification in Ireland

The LSI is the educational, representative and regulatory body of the solicitors' profession in Ireland. It exercises statutory functions under the Solicitors Acts 1954-2008 in relation to the education, admission, enrolment, discipline and regulation of the solicitors' profession. The steps to qualification as a solicitor in Ireland are summarised as follows[67]:



[67] Information & graphs drawn from the Law Society of Ireland's website https://www.lawsociety.ie/Public/Become-a-Solicitor/

1. FE-1 Exam

For the vast majority of students attempting to qualify as a solicitor, the process commences with the Final Examination - First Part (FE-1s), in essence an entrance examination. The general requirement in order to sit the examination is that the candidate holds a degree from either an Irish third level institution or from an equivalent institution in another jurisdiction. However, and uniquely for a common law jurisdiction, there is no requirement that the graduate hold a degree in law in order to sit the entrance examinations. The FE-1s are held twice a year, normally in Spring and Autumn. It consists of the eight papers[68] and there is no formally approved preparation course in advance of the FE-1s[69].

A candidate sitting the FE-1s for the first time must sit examinations in at least three of the eight subjects. (The candidate may choose any three of the eight subjects). The candidate must pass at least three of those examinations; otherwise the candidate will be required to recommence the process without carrying forward any exemptions. Once the candidate has passed at least three of the examination in one sitting, they then have five years within which to pass all eight subjects choosing when and in what combination they attempt the remaining subjects. If the candidate fails to pass all eight examination subjects within the five year period, they lose all exemptions attained and in effect will be required to recommence the process if they wish to proceed.

The Preliminary Examination

A small number of applications are received each year from non-graduates, who are required to sit a preliminary examination. The examination consists of three papers, namely English, Irish Government and politics and general knowledge. The performance of this cohort of students is of interest because it represents an entry route into the profession for students from what might be considered as less typical backgrounds.

Eligibility for Training Contract

After successfully completing the FE-I examinations, successful candidates can then apply to commence the Professional Practice Course Part I (PPC I). However, before applying to the PPC I, applicants must *have secured a training contract with a training solicitor.*

Professional Practice Courses

The LSI's Law School runs two full-time courses for trainees – the PPC I and the PPC II. The PPC I is the course designed to provide general vocation legal education to all trainees and is seen as the foundation block of the training contract. The PPC I takes place annually and usually starts in September and runs until March-April (inclusive of examinations). There are seven subjects covered in the PPC I[70] and the current fee to attend the PPC I is [€8,300].

As regards the examination process, the most subject are assessed at PPC level by way of a three hour open book examination.

---

[68] Company law; constitutional Law; law of contract; criminal law; European Union Law; equity; real property; law of tort.

[69] Rather the LSI publishes a detailed syllabus for each subject and also makes a list available of persons and institutions holding themselves out as preparing candidates for the FE-1s.

[70] Applied land law; probate & tax, business law, litigation, skills and legal practice Irish, all of which are compulsory

After eleven months of the training period the trainee returns to the Law School to attend the PPC II. The PPC II course is eleven weeks in duration and the current fee is [€ 4,500]. There are four compulsory subjects[71] covered on the PPC II. Trainees then have a choice of electives from which they must choose three.

2. The Training Contract

Training solicitor is required to provide the trainee solicitor with reasonable and appropriate experience in the areas of conveyancing and landlord and tenant law and litigation. The period of in-office training is considered to be a vital and essential component of the overall training programme.

Alternative Routes to qualification

The Qualified Lawyers Transfer Test (QLTT) is a conversion test which enables lawyers qualified in certain countries outside the Republic of Ireland to qualify as solicitors in this jurisdiction. Barristers who qualified in Ireland can also transfer to become solicitors without the necessity of undergoing the full training programme prescribed for trainee solicitors. Such entry routes are mentioned for completeness, but the performance of those entering the profession by such alternative routes was outside the scope of the present study.

Admission to the Roll of Solicitors

The final part of the process, once all statutory and regulatory requirements concerning education and training have been met, is the admission to the Roll of Solicitors. Those applying for admission each year come from a truly mixed background, comprising as they do of law-graduates and non-law graduates from a diverse range of institutions and those that attended the Preliminary Examination by virtue of being non-graduates. The performance of each of these categories of candidates during at the FE- 1 and the PPC stages, offers an insight into the qualification process and potential blocks to entry into the profession.

Secondary Analysis of FE-1 Data

The performance of students who first attempted the FE-1s in 2013 was reviewed in detail. 2013 was chosen to permit a longitudinal study of the students' performance. The date was also significant because as the data was reviewed in Spring 2018, it meant that any students who had attained sufficient credit in 2013 (i.e. passed three FE-1 papers in one sitting) but who had not yet fully passed the FE-1s would be due to lose any attained credit (i.e. due to the five year rule) – a significant milestone.

Of course, for many students the FE-1s are very much a continuum of a path towards qualification, possibly starting with an undergraduate law degree (or not); summer placement in law offices during college; and participation in FE-1 preparation courses provided by the various external provides. But as all students must pass the FE-1s to progress toward the PPC, it is an extremely important reference point against which performance can be judged.

[71] Professional practice, conduct and management (PPCM); family & child law; employment law; and English property law

Data Collection

In the year under review, namely 2013, there were 405 candidates sitting the FE-1s for the first time. First time candidates were separated from others sitting the same exams. Data first gathered at the application stage (such as age; gender; previous type of undergraduate degree (if any); location of primary degree) was collected. This information was then collated with data on how each student performed in the FE-1s undertaken in 2013. Once this was complete, data was then gathered and recorded on how each student performed at subsequent sittings of the FE-1s. This included data on whether or not they had completed the FE-1s; the date of completion; the total number of papers attempted; if the candidate had not completed the FE-1s, the date of their last attempt; whether or not they had qualified as solicitors; the date of qualification; the firm with whom they had their training contract; if not completed the PPC, the stage they were at towards completion.

Data review

As a baseline, as of Spring 2018 of the 405 candidates that first attempted the FE-1s in 2013, 306 (or 75%) had completed the FE-1s. Of those 306 candidates that had completed the FE-1s 201 (64%) were by Spring 2018 fully qualified, with a further 77 (25%) at an advanced stage towards qualification, having either completed the PPC II in 2017 or else due to commence the PPC II in 2018. Therefore, there were only 28 students (9%) who having attained the FE-1s who by Spring 2018 were not at an advanced stage towards qualification. Therefore five years after commencing the FE-1 process, 91% of those who attained the entrance exam have attained a traineeship and are either qualified or at an advanced stage towards qualification. Therefore, we can conclude that the FE-1s rather than the PPC act as a significant filter with regards to access to the profession.

Performance of law Vs Non-law graduates at the FE-1s

Of the 405 candidates that first attempted the FE-1s in 2013, 322 students were identified as holding an undergraduate law degree; 62 as holding an undergraduate to degree in an area other than law; and five as having passed the Preliminary Examination (i.e. non graduates) (there were six students whose educational backgrounds it was not possible to classify). Of the 322 undergraduate law degree holders, 250 (77%) were identified as having completed the FE-1s. Of the 62 students who were non-law graduates, 52 (83%) had completed the FE-1s. This is an unexpected result, indicating at first glance that the holding of an undergraduate law degree confers no particular advantage at the FE-1 stage.

The numbers of students sitting the FE-1s for the first time in 2013 via the Preliminary Examination were very small (five in total) and the therefore it is impossible to generalise from the findings. However, at first glance the statistics do seem significant, with only one student (20%) having passed the FE-1s by Spring 2018, which is well below the benchmark pass rate of 75%.

Review of those who don't progress past the FE-1s

Of the 99 students who first attempted the FE-1s in 2013 but who had not yet completed the FE-1s by Spring 2018, 63 did not have any FE-1 credits, meaning that they never passed three FE-1 papers in any one sitting so as to attain any credit. (Seven having 3 credits at the date of last attempt; four having 4 credits; three having five credits; four having 6 credits; eight having 7 credits; and eleven students whose level of credit could not be ascertained). It is therefore contended that it would appear that it is the 'three pass rule in one sitting' more than anything that is the most significant filter with regards to access to the profession.

Pilot study of student performance at PPC level

A pilot study was also conducted to analyse the performance of PPC students to ascertain the predictive value of certain known variables (e.g. FE-1 results; law v non-law graduates; gender; age). The design was to select 200 students from a particular offering of the PPC I examinations (2013 was chosen to permit a longitudinal study of the students' performance) and to compare the performance of the different categories of students within that group.

Certain data was readily available on the LSI exam recording system (i.e. EIS) in report format and was easily transferred to Excel & Minitab for analysis. This included a summary report detailing each student's performance at the PPC I exams, providing information on their overall grade (fail/pass); their overall average; and their specific marks on each of the core subjects undertaken. Other data relating to the students' performance at FE-1 level had to be manually collected and collated with PPC that data.

Predictive value of the FE-1s at PPC level

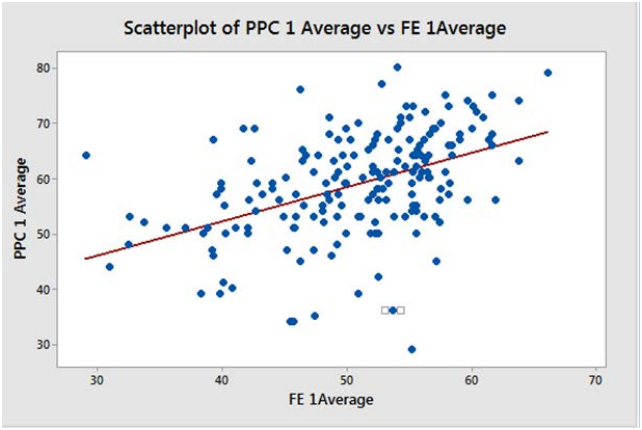
The pilot study attempted to analyse the predictive value of FE-1 results for subsequent performance at PPC level. The first issue related to what to compare? For the students' PPC I performance it was relatively straightforward in that the students' average result for the first sitting at the 'core' PPC subjects could be used as benchmark. It was somewhat more complicated to decide what 'benchmark' to use for the FE-1 performance as the 200 PPC students under review would have taken the FE-1 exams at different sittings and taken varying amount of attempts to attain all eight subjects. The average of each student's first attempt at each of the eight FE-1 papers (regardless of the sitting) was used as a benchmark of their FE-1 performance. A second benchmark was the number of attempts they required to pass all eight FE-1 papers.

In order to ascertain the strength of the relationship between the students' FE-1 and PPC I performance, Pearson's correlation coefficient (denoted by 'r') was used. Pearson's (product moment) correlation coefficient is defined as 'a measure of the correlation between two variables in a data set'[72]. The measure of correlation will be a value between -1 and +1, where +1 represents a perfect positive correlation and where -1 represents a perfect negative correlation. A value of zero indicates that there is no association between the variables. The following table is a guideline to interpreting Pearson's correlation coefficient.

	Coefficient r	
Strength of Association	Positive	Negative
Small	.1 to .3	-.1 to -.3
Medium	.3 to .5	-.3 to -.5
Large	.5 to 1.0	-.5 to – 1.0

Using Minitab to compare students' FE-1 average result with their PPC I result revealed a Pearson's correlation coefficient (i.e. 'r') of .512, indicating a relatively strong positive strength of association between the students' FE-1 results and their PPC I performance. This may be represented in the following scatter plot diagram:

[72] Steve Lakin, *How to Use Statistics (Smarter Study Skills)* (1st edn, Prentice Hall 2011) 260



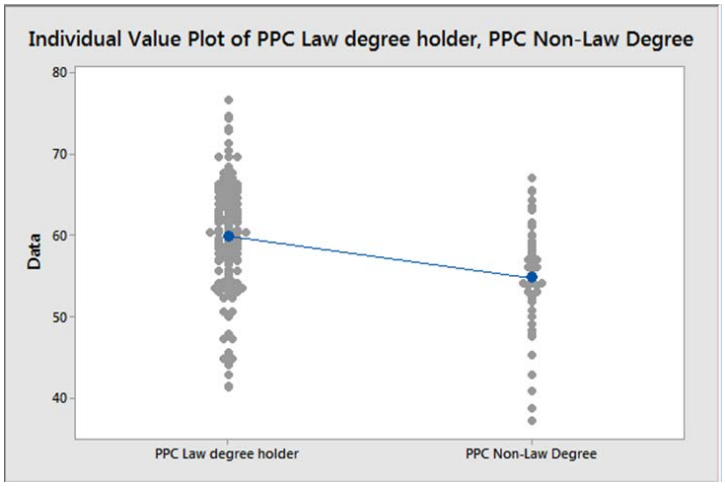
In summary therefore, based on the pilot study a student's FE-1 results would appear to have a relatively strong predictive value of their subsequent PPC I performance.

In order to use Pearson's Correlation Coefficient the variables have to measure either on a ratio or interval scale. However both variables don't need to be measured on the same scale (e.g. one variable can be a ratio and one can be an interval). Therefore using the available data another way of checking for association using Pearson's Correlation Coefficient was to compare the number of attempts it took students to attain all eight FE-1 credits against their subsequent PPC I performance. Again using Minitab, this resulted in a Pearson's Correlation Coefficient (r) of -.48, indicating a moderate negative relationship (that is the more attempts that student takes to achieve the FE-1s would appear to have a medium predictive value of their subsequent PPC I performance).

It is not implied that the FE-1 performance is the cause of the subsequent PPC I performance, merely that there is a relationship between both variables and hence of predictive value.

Performance of law vs non-law graduates at PPC level

The results of law degree holders (n148) were compared against the results of non-law degree holders (n47) (it was not possible to categorise five of the students). The average result for law degree holders across the range of core PPC subjects was 59.84%, whereas for non-law degree holders it was 54.77%, represented in the following diagram:

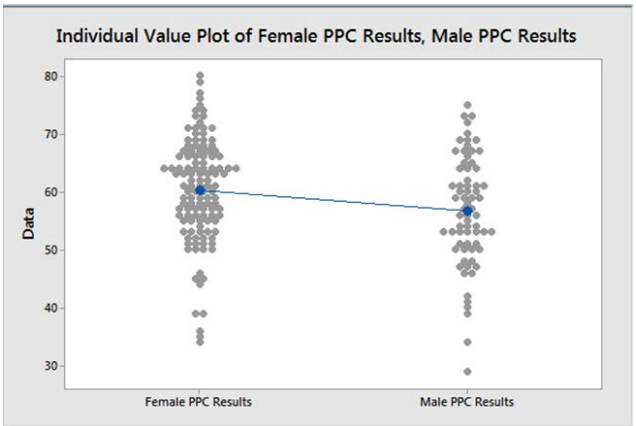


However, was this statistically significant? The null-hypothesis is that the performance of non-law degree holders is the same as the performance of law degree holders. Using the same data and

applying *t*-test using Minitab, we ascertain a P-value of 0.00. With P<.05 we can therefore reject the null hypothesis. The results are significant enough to warrant a further study of the performance of both categories of students.

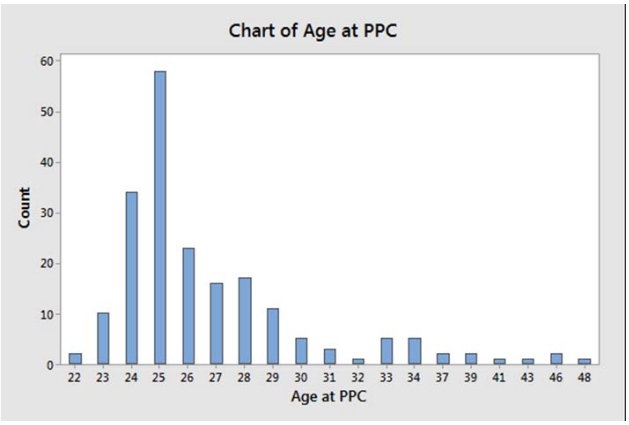
Gender as a predictor

There was also a statistically significant difference in the performance of females (n121) who had an average score of 60.25% as against males (n76) who had an average score of 56.7% in core PPC I subjects. This resulted in a P-value of .013, with it again being statistically significant at P <.05. In fact gender as a predictor of performance at PPC level was nearly as statistically significant as whether or not the individual held an undergraduate law degree.



Age profile as a predictor

The age profile of students was also analysed. The youngest student taking the PPC I exams was 22, the oldest being 48 with the median age being 25. The age profile of students under review is represented as follows:



The performance of the students in the first age quartile was compared with those students in the second and third age quartile, with no statistically significant differences. However, when the performance of those of those in the fourth age quartile with that of the second and third a statistically difference did emerge with the average for score for those in Q2 & Q3, being 59.26%, whereas for Q 4 (representing those 28 years and older) it was 55.44%. This resulted in a P-value = .0003, again with P being statistically significant at P <.05.

To varying degrees, variables such as whether or not the student held a primary law degree, the age of the student and their gender were all statistically significant when it came to performance at PPC I level. There also appeared to be a statistically significant correlation between the students' initial performance at FE-1 level and their PPC results. The findings were sufficiently significant to warrant further investigation in a broader study. It may also be worth investigating whether a combination of all these independent variables was likely to identify particularly 'at risk' students.

Conclusion

We have reviewed two different case studies using secondary data analysis in two extremely data-rich environments, namely the Northumbria University and the LSI. In both cases the data reveals significant relationships between students' characteristics and background and their performance. Indeed it is entirely fair to say that in both institutions we are only scratching the surface of the trends and patterns that this type secondary data can potentially reveal with regards to student progression.

The Northumbria University study focussed on the early stages of the route to qualification, the QLD and LPC in the form of an M Law programme. The study gave rise to a number of hypotheses about how students progress through a four year exempting programme. This study established that student achievement at the end of years 1 and 2 is not predictive of performance in the final year of the M Law programme. This brings into question many important judgements that are made on the basis of year 1 and 2 marks by employers, educators and quite possibly students which can have a substantial impact on students' access to key requirements necessary for qualification as a solicitor. These findings have possible implications for the Law School. We need a closer understanding of these early years of study. Are students using them to make progress towards their final classification or should we be reconsidering content – is there anything we can learn from year 3 and 4 modules that might improve achievement at an earlier stage?

The findings as to whether performance in modules with significant practice orientation such as year 3 SLO and Property Law and Practice has any relationship to high achievement in year 4 is more tenuous. There does appear to be a correlation between these subject marks and year 4 achievement although causation may be a result of other factors. These initial findings assumed module content and in particular the mix between practice /skills/ theory / black letter law content based largely on our understanding of the M law curriculum however no systematic break down of module content has been carried out. Similarly, no detailed consideration has been given to teaching and learning and delivery of these modules. Methods of assessment will also have an impact on marks there is evidence to suggest that modules assessed by coursework normally attract higher marks.[73] In addition the focus on marks is only one variable amongst many that may impact on performance in year 4. In year 4 students have close supervision (one supervisor to six students in SLO year 4) and individual supervisors for their dissertation and there is evidence in student feedback of high levels of engagement in these modules. It may be that high marks in these modules have been affected by the way these modules are delivered during the course of year 4. In addition student motivation and ability to self-study more effectively may have an impact on year 4 marks.

The correlation between year 3 marks and the year 4 recalculated class are harder to interpret but they are not inconsistent with some of what we have suspected; that clinical or practice focussed modules may encourage higher achievement by students with previously lower marks and that modules with a higher practice content may improve marks in both practice and academic modules

[73] V Simonite, [2003] The impact of Coursework on Degree Classifications and the Performance of Individual Students Assessment and Evaluation in Higher Education 28:5 459

and the biggest question of all that clinical modules impact on every aspect of legal education not just the improvement of legal skills and processes.

With regards to the Irish case study, the research objectives were to identify attributes or characteristics of students that are predictive of success, or, conversely, attributes or characteristics of students that are predictive of failure at both the FE-1s and PPC level using secondary data analysis. Such secondary analysis of available data is invaluable, because if properly understood will help to identify 'at risk' students for both the FE-1 exams and the PPC. This information could then be used to build a predictive model to inform intervention strategies designed to assist such students.

One major issue was the extent to which the FE-1s are predictive of PPC performance. This is not merely important for the perspective of building a predictive model, but also has importance with regards to the validity of the assessment process. This is because the PPC acts as preparation for practice, completion of which permits entry to the profession. On the premise therefore that the PPC is assessing the aptitudes necessary to be a solicitor, if the FE-1s are intended to select those most suitable to be solicitors then you would expect a reasonably strong correlation between students' FE 1 and PPC performance. By way of comparison, from the US there is good evidence that the LSAT score is highly effective as a predictor of first-year law school grades[74]. It is therefore welcome that our results show a reasonably strong correlation between students' FE-1 and PPC results, indicating that the FE-1 is acting as an appropriate filter. However, given the importance of this issue a wider scale study with regards to such correlations is warranted.

Another area focused on was the performance of law degree holders against that of non-law degree holders. From the American perspective, Kissam (1989) states 'that a student's experience in taking twenty-five to thirty…exams in the course of a law school career will constitute effective, if not the most appropriate, preparation for taking bar exams'[75]. Applying the same logic to the Irish context, we found that somewhat surprisingly the holding of a law-degree does not appear to confer any particular advantage for students undertaking the FE-1 exams, although a certain advantage was evident at the PPC stage. This raises interesting issues with regards to the value of an undergraduate law degree as a means of preparation for professional assessments. Again, given the importance of this issue, a wider scale study is warranted.

There were also other specific categories of students that warrant further investigation. For example, gender was seen to be statistically significant at the PPC level, with females outperforming males. Age was also statistically significant, with older students performing less well at PPC level. The performance of those attending the FE-1s via the Preliminary Examination (i.e. non-degree holders) was substantially below average. The Preliminary Examination has the potential to liberalise entry routes into the profession so the performance of this cohort of students is important. However, the sample contained a very small set of such students (five in total). A fuller more wide scale study of the performance of such students over a number of intakes would be helpful.

Finally, this type of secondary data analysis is invaluable in describing *what* is happening with regards to student attainment and progression. However, there is also a strong case to be made for potential follow-up qualitative research to ascertain *why* it is happening. For example, in the Irish context we have seen that more than anything the FE-1s acts as the main filter into the profession. Of particular interest therefore are those individuals who initially attempt the FE-1s but do not gain sufficient credit

[74] MM Shultz and S Zedeck, 'Predicting lawyer effectiveness: Broadening the basis for law school admission decisions' [2011] 36(3) Law & Social Inquiry 620–661

[75] PC Kissam, 'Law School Examinations' [1989] 42(2) Vanderbilt Law Review 433–504

to progress to the PPC. However, with no clear defining characteristics of such students, it would be important to understand more about their motivation in the first place to attend the FE-1s and why and at what point they decide not to progress the process further. Motivation is also relevant to student performance in the Northumbria M Law programme and further qualitative research considering the importance of delivery, module content, assessment and student choice would further explore the issues emerging from these initial findings from analysis of student grades.