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Belghitar, Yacine and Scataglini Belghitar, Giovanna (2010) The role of critical evaluation in finance: evidence from an MSc in finance programme. *Accounting Education*, 19 (6) . pp. 555-586. ISSN 0963-9284 [Article] (doi:10.1080/09639284.2010.511705)

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**The role of “critical evaluation” in Finance: insights from an MSc
programme**

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Acknowledgment: We would like to thank Professor Alan Sangster for valuable comments and advice on an earlier version of the manuscript and the two anonymous referees.

The role of “critical evaluation” in Finance: insights from an MSc programme

Abstract

This article explores how prepared MSc in Finance students at a British University were for a research based dissertation; how much they knew about independent research prior to starting the dissertation; and how the University assisted them during this research work. Three changes were carried out within the programme with the main aim of immersing students in research practices. Students were provided with the opportunity to discuss and evaluate critically the methodologies and findings of real research studies in Finance.

Thus, the study provides practical suggestions on how to support the students' experience of dissertation work. Furthermore, this article contributes to the literature on what constitutes research in Finance and on how students can learn about standards of academic validation, by offering a subject-specific perspective on information literacy.

Keywords: action research; finance; masters' dissertations; information literacy; research methods.

Introduction

It has been widely documented that graduates have little or no experience of the practices of research (Murry, McKee and Hammons, 1997) and that they overestimate their own research readiness (Ivanitskaya, Laus and Casey, 2004). This article has as its foundation a case study, the evolution of the research methods support on an MSc programme in Finance taught at a British University. In particular, it considers the rationale for and the impact of the introduction of three changes all of which aimed at immersing students in the research practices of Finance. Firstly, an existing guest seminar series was used to invite academics and practitioners to address the issue of what research meant for them and how they went about researching within their field of activity. Secondly, compulsory student group presentation on research articles were adapted to introduce greater emphasis on general research features such as context and motivation for the research, critical discussion of results and comparison with existing literature. Thirdly, the computer lab sessions were given a structured format: at the outset students tried to replicate statistical analysis carried out in past academic research, then considered the same or similar research questions via alternative methods of analysis, finally they discussed strengths and weaknesses of each approach.

These changes were introduced as a response to an initial enquiry into the students' level of preparedness to carry out the research work required for a dissertation. This was motivated by the fact that students appeared to feel that the dissertation was relevant to their future employment prospects, yet they were often confused about what a dissertation entailed, some expecting it to be little more than an extended essay; while others prepared *unrealistic* research proposals¹. Specifically, the enquiry considered the following research questions:

(RQ1) How were the students supported in their research work?

(RQ2) What did the students think the role of the dissertation was?

¹ A number of students every year had to change dissertation topic once they realised that the submitted research proposal was not feasible because of the lack of appropriate literature resources, little availability of data, and their lack of confidence in the use of the research methods required.

(RQ3) What, if anything, could be done to facilitate and improve their experience of working on a research-based dissertation?

In reflecting on students' misconceptions on the nature of a dissertation, this research sought to investigate the implicit assumptions of research in Finance and how these relate to research-based dissertations. In particular, it considered what *does* count as research in Finance; how Finance relates to other areas of the Social Sciences; and the extent to which the norms of this field of research are made explicit to research novices. In so doing, it explored the role of critical evaluation in Finance and what it might mean to be "information literate" in this context.

The approach taken was that of "action research" as this form of research is particularly suited to research into teaching and learning that involves the teachers as researchers, and wishes to bring about change and improvements in the educational situation under study (Elliott, 1991; Feldman, 2007)². Taking as a starting point a small scale research carried out by academics interested in gaining better understanding and improving their students learning experience, its aim is to move beyond the "case study" to highlight broader issues and involve a wider community of academic researchers. In so doing, the research carried out in this study falls into the area of *action research as locally-sponsored systemic reform sustained over time* (Somekh and Keichner, 2009, p.18).

This article seeks to make the following contributions to the literature. Firstly, it offers an insight into the practice of dissertation writing in the British masters' context, and provides constructive suggestions on how to support research practice in graduate students by modifying existing programme features. Secondly, it considers how students – who belong to the "internet generation" – are to know about validation of data and information, and to what extent this is an issue which is general or subject-specific. Thus, it offers a perspective on the information literacy debate in the

² This form of research, from its first definition by Kurt Lewin in the context of sociology in the mid-1940s, is understood as research which intends to improve social settings by involving its participants in an iterative process of fact finding, planning, interventions and reflection, and is deeply influenced by the values and culture of the participants (Lewin 1948).

context of graduate studies which should be of interest to academics beyond the field of Finance.

The remainder of the article is structured as follows: section 2 presents a review of the existing literature on teaching research methods; while section 3 describes the details of the case study, specifically the context of the research and data collection. Section 4 considers the outcomes, in particular, it considers the research questions, describes the interventions and presents initial findings. The concluding section 5 discusses the research and its implications for teaching and learning Finance at graduate level.

2. Literature on Teaching Research Methods

Only a few authors have written about project and dissertation work or, more generally, the issue regarding what support students might need in order to perform these. What little there is falls under the topic of teaching Research Methods in Business Schools at either undergraduate (Mutch, 1998; Benson and Blackman, 2003; Booth and Harrington, 2003) or postgraduate level (Levin and Johnson, 2005), and none is specific to MSc courses in Finance. As a result, the literature review for this study was extended beyond the boundaries of Business and Finance to include the Social Sciences as a whole.

The debate concerning what Research Methods (hereafter referred to as RM) are for (Burgess and Bulmer, 1981; Rose, 1981; Schutt, Blalock and Wagenaar, 1984); what they should be teaching (Takata and Leiting, 1987; Tashakkori and Teddlie, 2001); and, how they ought to be implemented (Winn, 1995; Laughton and Ottewill, 1998; Tashakkori and Teddlie, 1998) is long-standing. One of the issues debated is whether students need to develop, in the words of Rose (1981), “research appreciation or research competence”. That is, whether RM courses should enable students to become critical evaluators of published research or whether they ought to help students to become experts in the practices of research (Burgess and Bulmer, 1981; Rose, 1981).

This dichotomy appears to stem from the fact that *only* one or the other of the above approaches was perceived to be relevant to the students and their educational aims.

Researchers in the Social Sciences have mainly discussed the latter - stressing the importance of competence in conducting research. This stance is somewhat at odds with the fact that only a small minority of undergraduates is involved in academic research after completion of their degrees (Winn, 1995). However, Levin and Johnson (2005, p.152) argued that even MBA graduates "need to understand the empirical research process", since a large number of global corporations depend on research development.

Even among educators that argued in favour of the 'research competence' aspect of RM, there is still a wide range of opinions regarding how this may be achieved, what students ought to be taught and how. One particular issue is the ongoing debate between the qualitative and quantitative methodologies (see for example, Gage, 1989; Tashakkori and Teddlie, 1998). Though, this conflict has been given a pragmatic resolution within the provision of postgraduate courses by a number of researchers, including Hammersley (1992), and Tashakkori and Teddlie (2001), who argued in favour of a mixed-methods approach.

One point, on which there is an overall consensus of opinion, is that students find RM modules of little relevance, especially when they are taught in isolation and as a *tool-kit*, (see for example Winn, 1995; Booth and Harrington, 2003; Benson and Blackman, 2003). In order to address the difficult task of engaging students with RM, some educators have long argued for the need to embed RM in "real" experiences (Rose, 1981) while others have suggested a *learning by doing* approach (Takata and Leiting, 1987; Winn, 1995; Hughs and Berry, 2000).

Even those authors who did not favour practical work believed in a degree of student involvement. For example, Filinson and Niklas (1992) suggested having students write research proposals. It should, however, be noted that with the exception of the project described by Levin and Johnson (2005), all the above are examples of undergraduate research work which includes a strong component of support from and interaction with the teaching team. At master's level there ought to be less control from the lecturers even though, as this review of the literature would suggest and as pointed out by Murry *et al.* (1997), postgraduate students are, in general, less familiar

with the practices of research than many lecturers would expect them to be. The need for RM instruction at postgraduate level cannot, therefore, be ignored.

Many of the authors that favoured a *research practice* approach to RM also made a strong case - in principle - for the *critical thinking* aspect of RM. For example, Winn (1995) stressed that most undergraduates need to be able to understand and evaluate research and Laughton and Ottewill (1998) emphasised the importance of reflective practice as part of effective foundations for successful project work. Yet, Booth and Harrington (2003), while reporting that research projects are widely used by undergraduate Business Studies institutions, were persuaded that most second and third year undergraduates would not be able to evaluate the contribution of an academic article.

As has been discussed, the nature of RM instruction in undergraduate courses varies widely. It can be argued, therefore, that it is not possible to assume that postgraduate students have any specific knowledge of or familiarity with research – even when project work has been part of their undergraduate course. In many cases at that level, one or more of the following has not been done by the student: selection of topic, choice of methodology, choice of methods, a literature search (see, for example, Winn, 1995; Laughton and Ottewill, 1998; Hughes and Berry, 2000).

Although Levin and Johnson (2005) stated that MBA graduates should be capable of interpreting published research, the emphasis of those authors was upon reviewing the literature rather than upon its critical evaluation. Therefore, their study focuses on the improvement in the ability of students to synthesise and assimilate literature, not upon their overall ability to critically evaluate of published research. Booth and Harrington (2003) reported that at undergraduate level research competence is achieved via a provision of tools, rather than through the detailed and critical study of ideas governing the inquiry as proposed by, among others, Burgess and Bulmer (1981).

While it is necessary to critically evaluate previous research in order to start new, relevant research, it is also only through direct experience with research that students can gain an appreciation of the difficulties and realities of research (without which they will struggle to critically discuss other people's research questions,

methodologies, methods and findings). It may be possible to avoid the focus on one or other of these aspects at undergraduate level where the aims of a research project are unlikely to be as wide ranging as at postgraduate level. However, at postgraduate level both must be addressed. Therefore, an RM provision for postgraduate studies needs to introduce students to both *research practice* and *critical reflection*.

3. An introductory case study

This study was motivated by a desire to better understand and, if possible, support students enrolled on an MSc programme in Finance working on their research-based dissertation. This section seeks to describe the details of the programme under study and the data collection. The outcomes of this action research, the interventions carried out and the initial findings are presented in section 4.

3.1 MSc Finance: the local context

The MSc in Finance was a programme running over one academic year. It consisted of an initial taught part and a subsequent research part by the end of which the students had to submit a dissertation. The learning outcomes related to the dissertation work required students to show evidence of: critical analysis and synthesis of existing literature; critical evaluation of findings; research purpose; in-depth and critical knowledge of research topic. The dissertation contributed 60 credits, one third of the credits for the course, while the other modules on the course each contributed half the number of credits: 30. It was therefore reasonable to infer that the high number of credits for the dissertation signalled the importance placed upon it.

By the end of the taught part of the course, the students had to submit a dissertation proposal consisting of a title, a rationale for the selection of the research topic, details of the research question and its objectives, proposed methodologies, timescale and references. However, the only support that was offered to the students prior to this deadline consisted of two one-day-long Project and Dissertation sessions at the start of the course. These aimed at providing students with general guidance on proposal writing, dissertation structure, data sources, referencing, plagiarism and assessment.

These sessions were officially compulsory but were run over two Saturdays and were shared by a number of MSc courses within the University³. The allocation of a supervisor was made *after* the proposal had been submitted, on the basis of subject expertise and interests.

3.2 Student Feedback

A questionnaire was developed (see Appendix) in order to gain a more thorough understanding of the local context; this would complement the general issues raised by the literature. In particular, it was expected that it would help to discover the perceptions of students regarding the early stage research provision (prior to supervisor allocation) for the dissertation, as well as exploring some of their experiences while working on the dissertation. The cohort consisted of 33 students and the questionnaire was given to them when they were close to submitting their dissertation⁴. The questionnaire consisted of four parts:

1. Questions 1 to 4 covered the students' background, in particular they sought to find out whether the students had had any prior experience with project or dissertation work and whether this was supported via a Research Methods module.
2. Questions 5 to 14 asked students to assess their own current level of confidence in performing certain activities considered relevant to research in Finance, and the generic skills that were developed during the course⁵.
3. Questions 15 to 20 covered aspects which were specific to the MSc course: feedback on the Project and Dissertation sessions, their encounters with research methods and the support provided during the academic year.
4. Questions 21 to 25 dealt with dissertation issues: the rationale for selection of topic and approach, and what the role of the dissertation was perceived to be.

³ These were the only classroom activities on a Saturday: no other module had classes on a Saturday.

⁴ Students were sent the questionnaire via email and given the option of either replying via email or printing the questionnaire and returning it anonymously.

⁵ These questions are based on the work of Levin and Johnson (2005) on MBA students.

Only 11 students responded. Given the small number of responses and the nature of some of the questions, no statistical analysis was carried out. Instead, the answers were read, grouped and highlighted in order to allow narrative themes to emerge and an attempt was made at examining the interpretation against the evidence on which it was based (Pring, 2004). These could be broadly categorised along five themes: students' previous experience of research; dissertation support: the Project and Dissertation sessions; students' assimilation of the research process; view of the role of the MSc dissertation; the use of the words analytical and critical.

Students' previous experience of research

Even though all students had an undergraduate degree in an area related to Finance, only six of the respondents had any formal training in Research Methods. They reported in Question 3 that these covered *how to design a questionnaire; to determine sample size and to analyse and interpret findings; case studies or basic statistic theories*⁶. Many of the respondents had completed some form of project or dissertation as part of their undergraduate summative assessment. However, in answering Question 4, only one of these students reported having previously been on a team of students that had to *undertake research on an own chosen topic, gather data (quantitative and qualitative), analyse gathered data statistically and make informed inference for decision making*. Moreover, there was little mention of conducting a literature review as part of their undergraduate research work.

Dissertation support: the Project and Dissertation sessions

Concerning the specific support provided by this University, from the responses given to Question 16 it emerged that a number of students had not attended the Project and Dissertation sessions⁷. Among those who did, most appeared to have found them helpful in suggesting *how to choose a topic*. However, some felt that their scope was somewhat limited since they only provided *rudimentary insight into doing a dissertation*.

⁶ In this section students' words were reported in *italics*.

⁷ In the questionnaire these were called "Research Methods weekends" as this is how they were informally referred to by the students.

Students' assimilation of the research process

Evidence of students' appreciation of research practices at a point in time when they had almost completed their dissertation, could be found by viewing some of the answers to Question 15:

“What do the words “Research Methods” mean to you?”

- *I remember two methods I think: qualitative and quantitative;*
- *It is solving the problems or questions by different ways such as data analysis; methods or tools used in sourcing relevant data;*
- *Professional methodology to process data;*
- *Approaches to the design and implementation of research projects;*
- *The methods used to collect and analyse data for research;*
- *Different methods by which research can be done.*

It was anticipated that students would give a variety of answers; however, there was an expectation that their definitions could be summed up as follows: methods by which research is carried out, including collection, analysis and interpretation of data. The responses suggested that some students had (almost) completed a postgraduate research project without internalising or reflecting on the activity they had carried out. If so, this could hide additional uncertainties concerning research practice. In contrast, students were confident in applying most of the generic skills required to work on a research project, the exceptions being the use of sophisticated data analysis tools and the evaluation of scholarly work.

Students' view on the role of the MSc dissertation

One of the stated aims of this article was to explore the perceptions of students of the role of the dissertation. When looking at its role within the MSc programme, in their answers to Questions 24 and 25 students stressed that it should *integrate all modules learnt so as to enhance understanding; it gave a good opportunity to collate and apply; see what I have learnt; prove you understand the issues discussed; it is the most important part of my MSc*. That is, the summative role of the dissertation work was emphasised. A number of respondents noted that *the dissertation is the best chance to present yourself; it must reflect the way that we want our careers to head to*

and it ought to be *professionally useful to the student*. This was a clear example of alignment of student and University objectives and a strong case in favour of the dissertation as a key component of the MSc programme under study (Biggs, 1999).

A recurring theme: ‘analytical’ vs ‘critical’

An additional theme that emerged from the questionnaires was that of the use of the words ‘analytical’ and ‘critical’. Many respondents used the words ‘analysis’ and ‘analytical’ to describe a dissertation (Question 24); general skills acquired during the course (Question 18); and the reasons for electing to pursue this MSc in Finance. For example, answers provided to Question 2 included: *it was more analytical; it equips me with analytical skills; learn about financial analysis*. This was reflected in their perception that the programme should have had an even greater focus on analytical tools such as data management and statistical software. A critical attitude was implicitly suggested by some of statements describing the qualities of a dissertation in Question 25 (*identify shortcomings; interpreting the data*), rather than explicitly recognised as an assessment criteria or a learning outcome.

4. Initial Findings and Outcomes

4.1 Interpretation of Initial Findings: the Research Questions

Regarding the first research question (RQ1) that motivated the study, that is, how the students were supported in their research work, the previous sections highlighted two main issues. Firstly, the students had a variety of backgrounds and undergraduate experiences, so that no particular familiarity with research practice could be taken for granted. Secondly, the fact that close to completing a master’s degree many students appeared not to have internalised the research process. Yet, the support for students’ dissertation work was limited and the Project and Dissertation sessions had a narrow focus. For example, there was no evidence of discussions on the nature and role of a literature review as part of a research project, notwithstanding the fact that the students would have had little or no experience of this aspect of research as undergraduates. Similarly, there was no opportunity for students to gain an appreciation of existing research and critically evaluate research questions, methods and findings.

The importance attributed to the dissertation both by students and University was in stark contrast to the limited support available for the development of research practice within this postgraduate programme. The findings related to research question **(RQ2)** regarding the students' view on the role of the dissertation, suggested that the students felt very strongly that the dissertation was a key component of their MSc in Finance programme as it allowed them to better integrate the knowledge acquired during the course and to present their strengths to future employers. Therefore, even though students might have encountered difficulties during the research process, they viewed it as a way of “proving one’s worth” and accessing the job market.

Finally, when considering what, if anything, could be done to facilitate and improve their experience of working on a research-based dissertation, i.e. **(RQ3)**, the findings pointed towards the following main themes:

1. the students engaged in the dissertation research as long as it was seen to be relevant to their wider career plans;
2. research tools, skills and methods would be best learnt within the context of actual research, rather than in “ad hoc” sessions;
3. postgraduates were not familiar with the practices of research;
4. reflective and critical practices are an integral part of research practice.

These findings inspired a number of changes (interventions) to the MSc programme in Finance which are described in detail in the following section 4.2. The core principle was to exploit existing features such as student presentations and guest seminars, but modify aspects of these so as to address the issues raised above. The interventions attempted to reinforce the link between the dissertation and career plans; expose the students to the realities and issues within research; and to foster critical thinking⁸.

⁸ The overhaul of the general research methods provision which would have been a more direct response to the issues raised required a change in the structure of the MSc programme and was not possible in the limited timescale and resources available.

The cardinal idea was the adoption of a “critique of research” approach; this was justified on the basis of two main considerations. Firstly, students were given opportunities to familiarise themselves with some other research issues such as data collection and analysis as part of coursework assignments for a number of taught modules. However, it was apparent that familiarity with existing literature in Finance and the realities of research practice was one of the main areas not addressed by the dissertation support sessions and hardly at all by any of the other modules on the course, notwithstanding the importance given to this in the literature on teaching research methods (Filinson and Niklas, 1992; Winn, 1995; Laughton and Ottewill, 1998). Secondly, having identified the risks related to a *tool-kit* approach to teaching and learning about research, all the changes needed to be integrated within the programme and aimed at being aligned with student objectives and career plans. For example, the first change aimed to highlight the importance of acquiring a research attitude even when the career plan led outside academia (in line with Levin and Johnson, 2005). Thus, it reinforced the students’ pre-existing notion that the dissertation and the research work carried out for it were relevant to them.

4.2 Implementation and Outcomes

The ideas outlined above were implemented in the MSc programme in Finance during the subsequent academic year. In the following are addressed the details of how this was achieved.

First Intervention: guest speakers

This change to the programme aimed to highlight how the research questions that an academic researcher might ask can also be relevant to a Finance professional. In order to do so, it focused on reinforcing the link between the academic perspective and the professional perspective. Two speakers were invited to give a talk to the students. An academic colleague gave a talk on his research on corporate hedging, while a consultant who was an expert on that industry discussed issues relating to hedging in the oil industry. Rather than giving “traditional” presentations of research findings, these speakers talked about their research from a general point of view and discussed

possible research questions in their specific fields of activity and expertise, and the approaches they might employ.

Second Intervention: student presentations

In previous years, students had been asked to read selected academic articles covering topics of relevance to one of the modules taught and then discuss them during a seminar in relation to the specific financial theories employed and the empirical findings. This intervention extended the use of this literature and the related sessions to broaden the discussion so as to include more general research issues. The aim is to focus students' attention on the following:

- the choice of research question;
- the justification for the research carried out;
- the rationale for methodology and methods adopted.

To do so, students were given articles covering some topics in Finance closely related to topics covered in the taught part of the programme (these included asset pricing models, initial public offerings, mergers and acquisitions, managerial compensation and corporate hedging). They were divided into groups of four or five; and were expected to read each article by a specified date plus undertake a search for other published research in the same area. During the course of the term, every group had to give a presentation on one of the articles circulated. Guidelines for the presentations were given in the form of a series of points that should be addressed:

1. Identify the main research question of the article.
2. Discuss the methodology employed by the author(s).
3. Discuss what sources of data were employed for the empirical analysis.
4. Summarise the main findings. Are they in agreement with the general theory or common knowledge? Discuss.
5. What are the main strengths and/or weaknesses of the article?

Third Intervention: computer lab sessions

The dissertation often required the students to perform some statistical work and that coursework was often limited to simple uses of statistical software. In order to address

potential student unease with some statistical software commonly used in Finance, fortnightly sessions in the computer lab are introduced. Once again, a critical approach was adopted. A few research articles were selected for which the data used by the researchers was easily obtainable. Students were asked to reproduce the statistical tests carried out in the original research. They were then encouraged to apply alternative tests of their choosing – among those encountered in the course or elsewhere – on the same data or different sets of data, and evaluate strengths and weaknesses of the various approaches. Therefore, students were given numerous opportunities to explore the statistical packages, while at the same time gaining a critical appreciation of the reasons for choosing one model over another.

The impact of the changes at student level was assessed via a questionnaire identical to the one previously used except for the inclusion of an additional question 18*⁹, together with examination results and contextual data. The questionnaire was sent to the 15¹⁰ students enrolled on the programme once they had almost completed their dissertation using the same procedures employed with the previous cohort; 12 students responded¹¹.

Concerning the special emphasis on research critique within student presentations (second intervention), the students stated: *I have used what I learnt in this course while writing my dissertation, and they were quite comprehensive and gave us some preparation on how we would carry out our research.* Informal comments made by some students at the time of the presentations had highlighted the difficulties related with coming to terms with up-to-date published work while still a research novice. It was also noted that the talks given by the guest speakers (first intervention) were most helpful in supporting dissertation work. A respondent commented that it *felt boring at*

⁹ The additional question 18* stated: “During the past year, a number of sessions (research workshops and guest lectures) in the Financial Theory module focussed on research in finance. What did you think of them? Comment.”

¹⁰ The interventions were repeated in following year with only minor adjustments on a cohort of 40 students and produced a similar impact on the dissertation outcomes as described in the remainder of this section.

¹¹ No interviews were conducted due to the unavailability of students: most students did not complete the dissertation on campus.

the time, but it is very useful when I do the dissertation after that, another that it was useful for both coursework and for the future.

On the whole, the students who experienced the interventions had a good understanding of the work they were to carry out for their dissertations. Indeed, the research work produced by some students was of such quality that it was turned into departmental working articles something that had never been considered appropriate previously. Moreover, the external examiner commented on the high quality of the dissertations from this programme in that year. Finally, the percentage of “distinctions” (marks above 70) did not significantly change from one year to the next, the percentage of “merits” (marks between 61 and 70) doubled, going from 27% to 54%. This suggested that the interventions had an impact in as much as more students’ work met the assessment criteria.

5. Research Discussion

In implementing and reflecting on the changes to the MSc in Finance programme adopted in this research a number of broad issues emerged, such as the nature of research in Finance, to what extent aspects of research in Finance were mirrored in the students’ research-based dissertations and the role of “critical evaluation” as part of research in Finance.

5.1 On the relation between research in Finance and dissertations

The choice of the research articles used in the students’ seminars raised questions regarding what characteristics the students were expected to identify in relation to their dissertation and whether these were exemplary of academic research in Finance. The research articles presented in these seminars covered a broad range of research topics; yet, they had the following common features. First an idea was proposed and a critical literature review was conducted. Next, gaps or competing arguments were identified to generate research questions. Finally, a data collection and a method of analysis were proposed. All the articles presented relied on secondary published data and the method adopted was mostly regression analysis. For example, a research question that aimed at assessing whether corporate risk management would lead to an increase in the value of firms may have considered data from the firms’ financial

statements as well as data from the financial market. This data would then be examined using regression analysis. This was, at least implicitly, the model of research that students were expected to follow in their dissertation work.

Most published articles in leading academic journals in the field of Finance such as *Journal of Finance*, *Journal of Financial Economics* and *Review of Financial Studies* follow the model outlined above. However, it is clear that this research model is not the only possible way of conducting research in Finance. Finance offers a wide range of approaches to research, each presenting different strengths and challenges. Some approaches differ from the one above in their sources of data and method of analysis: for example, it is possible in Finance to use secondary sources of data or to engage in direct data collection. Graham and Harvey (2001) adopted the latter approach and directly surveyed 392 chief financial officers to examine their behaviour in making financial and investment decisions such as capital budgeting, cost of capital and capital structure. Other approaches differ more radically from the one previously described, these include purely theoretical research articles, which might propose new models or new theoretical frameworks, or literature-based articles such as critical reviews. For example, Rock (1986) developed a theoretical model to explain why firms newly listed on the stock exchange are underpriced. In his work, Rock did not consider empirical data nor did he conduct an empirical analysis. Instead, he relied on theoretical arguments, translated these into mathematical models, and built a theory that could provide an explanation to the issue of underpricing. While Aretz and Bartman (2010) conducted a comprehensive review of the existing literature on corporate hedging.

However, examples along the lines of the above articles were not considered in the students' presentations for a number of reasons. Firstly, the limited time available to the students during a one year master's programme, where most of the time was allocated to taught course, called for clear pedagogical choices. An attempt to cover all possible aspects of research in Finance could have led to a "surface" approach in the sense of Marton and Säljö (1976a and 1976b), while the original aim was to allow students to experience in depth the realities and pitfalls of actual research by, for example, comparing how different researchers had tackled a similar problem. The research model selected was sufficiently widespread in the literature that a variety of

research questions and multiple perspectives on the same questions were available within the literature. Secondly, the model proposed offered a research framework which students could realistically attempt within the time constraints imposed on the dissertation. Thirdly, these were templates for research that could be of practical use to students in accessing future careers. Therefore, it is acknowledged that students were offered only a partial view of Finance as an academic discipline. Indeed, while less frequently employed in the literature, the other models of research described above are widespread among seminal or groundbreaking research; however, they require an even greater familiarity with existing research and theory than could have been expected from most of the students at this level. Hence, it could be argued that the approach taken was an acceptable compromise given the framework provided by this MSc programme.

These considerations led to question further what is research in Finance, how it relates to Social Sciences and to what extent it is defined by its means of enquiry. Finance is often characterised as the branch of Economics that focuses on investment in real and financial assets and the management of these assets (Gibbons, 1987; Ross, 1987); as such it is considered to be a quantitative discipline concerned with micro-economic theories. Indeed, the emphasis on ‘analysis’ and various ‘analytical skills’ identified as being common among the students surveyed was in accordance with the image of Finance as being an analytical and quantitative discipline. However, in drawing on the literature on Research Methods in the Social Sciences, this research acknowledged that it would be restrictive to interpret Finance exclusively as an empirical, quantitative discipline. Punch (1998) identified the aim of the Social Sciences as that of building explanatory theory about people and their behaviours¹². He explicitly identified Economics, of which Finance is a branch, as one of five main Social Sciences. Highlighting how in Social Sciences the research question, rather than the research methodology, should be the main concern in the investigation, Tashakori and Taddlie (2001) proposed that *in practice* most research is carried out along dual methodological paths and it is this approach that postgraduate students should

¹² While there are numerous critiques (for example feminist, socialist, postmodernist) of the extent of the explanatory power of theory in the social context, these do not question the assumption that social context is a subject of research (Punch, 1998, p.3).

adopt¹³. Therefore, it is the choice of research questions that fall within the domain of Finance, as identified for example by Gibbons (1987), which leads to considering market data. In turn, the richness and frequency of such data, which for example provide daily observations readily translatable into numerical variables, allows the researchers to exploit statistical methods of analysis. Accounting might consider similar research questions, but might use data published on a yearly basis, which can lead to different methods of analysis. However, the boundaries between these subjects are often blurred, with researchers combining a variety of data sources and, hence, methods of analysis. For example, Belghitar, Clark and Judge (2008) assessed the relationship between firm value and corporate hedging by referring to data on accounting financial statements and market data.

5.2 On the “critical evaluation” in Finance: information and validity

When considering Finance in relation to the Social Sciences as a whole, it is apparent that the “paradigm wars” between the quantitative and qualitative approaches and the critiques of the positivist and empirical perspectives have had a limited impact on the development of research methodologies in Finance. Yet, mainstream research in Finance has developed a much more nuanced approach to empiricism than might at first be apparent. For example, it is widely acknowledged that the research questions are influenced by historical or social events¹⁴, and that the sources of data are affected by technological developments, while the methods of analysis change as statistical models become more sophisticated. Moreover, the researchers are required to make (and be explicit about) their choices regarding which factors to consider or exclude in answering a given research question. In addressing these issues that research in Finance requires a critical approach and an ability to evaluate past and existing research. Hence, a first role of “criticism” in Finance appears to be the identification and relevance of research questions, the justification for the choices made whether

¹³ These ideas could already be found in their earlier work (Tashakkori and Teddlie, 1998), where the authors developed a whole teaching module on Research Methods - starting from the conceptual stages of research and ending with the inference process, including practical examples of research - underpinned by a mixed-methods approach.

¹⁴ For example, the research output of 2010 is bound to be dominated by research questions related to the financial crisis and the subsequent recession of 2008-09.

they related to variables, sources of data, models selected, and the evaluation of the explanatory power of the research carried out.

On the whole, Finance has so far been little affected by more fundamental views of “critique”, such as, for example, the radical critique position at the heart of the Critical Management studies first introduced by Alvesson and Willmott (1992). Here, the terms “radical” and “critique” indicate on the one hand, a focus on social systems such as capitalism, patriarchy, neo-imperialism, which are viewed as divisive and destructive and which condition social actions and beliefs; on the other, an attempt to show how such beliefs and practices are a consequence of these social structures and are, therefore, neither necessary nor unavoidable. Indeed, Finance is often so far removed from this perspective that Adler, Forbes and Willmott (2007, p.126) identify “financialization” of capitalism, management and firm goals, as one of the key assumptions that needs to be radically critiqued. However, there are branches of Finance that have critiqued fundamental assumptions within the discipline. For example, behavioural finance has brought to the fore the human, psychological element to the analysis of market behaviour (Barberis and Thaler, 2003; Baker, Ruback and Wurgler, 2007). Behavioural finance attempts to fill the theoretical void caused by human actions which appear to defy or contradict existing financial models. While behavioural finance questions some traditional theoretical perspectives it does so without rejecting the social framework in which such studies are carried out and, so, has been integrated into mainstream financial research. For example, the 9th edition of *Principles of Corporate Finance* (Brealey, Myers and Allens, 2008), a standard textbook for graduate studies in Finance, includes investors’ attitudes and, so, behavioural finance in its discussion on market efficiency. The process which underlies the development of this branch of Finance could be described as a “double loop learning” in the sense of Argyris and Schön (1978): the failure of existing models to account for certain patterns of behaviour does not lead to a refinement or improvement of the model, but to a review of the theoretical premises on which the model itself was based.

Therefore, one needs to conclude that research relies crucially on critical appreciation and evaluation of past and current research in Finance. Further still, these considerations lead to question how a novice researcher can learn to assess strengths

and weaknesses of existing research, and, more generally, question its assumptions and validity.

Indeed, this is not an issue restricted to research in Finance or academic research in general: numerous studies have documented how the “internet generation” often goes no further than Google for all its research needs, assumes all information to have equal value and fails to question its validity (Snavenly and Cooper, 1997; Becker, 2003). This is a topic which has been mostly researched by librarians under the heading of “information literacy” (see, for example, Ivanitskaya et al., 2004) and has predominantly been discussed in connection with issues such as the impact of popular search engines on students’ expectations (e.g. all sources are free and all information is equally accessible from the world wide web), the inability of students to perform sophisticated searches even within the environments they are supposed to be familiar with, students’ shaky understanding of what constitutes plagiarism. In this context, a common response has been that of introducing students to the importance of peer reviewed research and “high impact” journals via one-off sessions, which might also have included effective use of library resources (see Cooney and Hiris, 2004, for an example of this approach with Business and Finance graduates). However, the literature on teaching Research Methods as well as studies on developing life-long learning at university level (for example, Candy, Crebert and O’Leary, 1994, p.104) indicate that one-off sessions and tool-kits have limited impact on students, and are unlikely to be integrated into long-term attitudes. Hence, models such as the one proposed by Cooney and Hiris (2004) have only a limited effect¹⁵ on students. Further still, the sort of information literacy necessary to conduct research has to involve skills that go beyond the ability to source information or be aware that not all information is equally available.

It is generally accepted (Johnston and Webber, 2003) that among the aims of higher education one needs to include that students develop the ability “to recognise when information is needed” and “locate, evaluate, and use effectively the needed

¹⁵ For a critique of check-list methods of assessment of information literacy see Johnston and Webber (2003, p.342).

information” (ALA, 1989, p.1) as well as the fact that each student can “evaluate information and its sources critically and incorporate selected information into his or her knowledge base and value system” (ACRL, 2000). Further still, the Candy report (Candy et al., 1994, p.102) highlights how a key requirement of higher education courses must be that of raising “awareness of how knowledge is created in that discipline, of the limitations - both methodological and substantive - of that discipline”, given that the rate at which subjects develop is such that graduates cannot rely uniquely on what they were taught, and it identifies this requirement with information literacy. One implication of such a stance is that the issues related to information literacy take a subject-specific connotation and become a concern for the whole academic community involved in higher education teaching.

Some librarian research has hinted to the fact that there could be subject specific elements in supporting information literacy in students (for example Snavely and Copper, 1997). After all, academic research needs to be peer reviewed in order to be validated and the validation itself follows subject specific criteria. Moreover, not all published academic research has equal standing: some is published in “top” journals and some is not, yet there is excellent research published in little known journals. Further still, the long time required for publication, means that when considering topical issues researchers need to refer to material which has not yet been peer reviewed (e.g. working articles or pre-prints): this is a scenario master’s students are likely to face when choosing current topics for their dissertation. In these instances, it is up to the individual researcher to judge the validity of the sources. Furthermore, master’s graduates are likely to encounter similar issues once in employment (Levin and Johnson, 2005) and so critical evaluation is also part of the development of “independent learning” (as adapted by Benson and Blackman, 2003), a well established aim of higher education.

5.3 Concluding remarks

It has been pointed out in section 5.1 that “criticism” has a key role to play within research in Finance and this is closely intertwined with an ability to evaluate information, the quality of existing research or the validity of theoretical frameworks. In section 5.2 this was linked to the debate on information literacy which, in many definitions, has (critical) evaluation as a defining characteristic. Therefore, this article

argues that in order to better support students in their dissertation work and, more widely, in their awareness of how knowledge develops in Finance, (subject specific) information literacy needs to be integrated within MSc programmes. The interventions carried out as part of this research have attempted to assist students in becoming critical within the context of Finance, while recognising that this has wider implications for the development of the students as independent evaluators of information in both their studies and in their future careers.

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Appendix

Questionnaire

1. Background

1. What degree did you complete prior to starting this MSc?
2. Why did you choose to do an MSc in investment and finance?
3. During the course of your undergraduate studies did you take a "Research Methods" module? If yes, can you briefly recall what it covered?
4. As an undergraduate did you have to write a short project/dissertation? What did it involve?

2. General skills

Using the following indicated ratings, rate your level of agreement with statements 5 to 14: SA- strongly agree; A- agree; N- neither agree nor disagree; D- disagree; SD- strongly disagree.

2. I am a proficient user of word processing programs such as Microsoft Word.

SA A N D SD

3. I am comfortable using spreadsheet programs such as Microsoft Excel.

SA A N D SD

4. I am comfortable using data management software such as Microsoft Access or SPSS.

SA A N D SD

5. I am comfortable using data analysis tools such as regression analysis.

SA A N D SD

6. I am comfortable in designing research questionnaires.

SA A N D SD

7. I am comfortable using online library resources, such as Proquest, Science Direct, electronic journals, etc.

SA A N D SD

11. I am proficient at searching for information on the World Wide Web.

SA A N D SD

12. I am comfortable using Datastream.

SA A N D SD

13. I am used to reading scholarly or academic journal articles.

SA A N D SD

14. I am able to critically assess a scholarly or academic journal article.

SA A N D SD

3. MSc Investment and Finance Programme

15. What do the words "Research Methods" mean to you?

16. Did you attend the "Research Methods" weekends? If yes, can you comment on them? What do you remember?

17. Did you learn any other research methods during the course of this year? If yes, which and when?

18. What skills, if any, among those you have learnt this year, do you think will be useful in your chosen career path?

18*¹⁶. During the past year, a number of sessions (research workshops and guest lectures) in the Financial Theory module focussed on research in finance. What did you think of them? Comment.

19. Can you state which parts of the MSc programme (for example: modules, assessments, talks and events you attended during the year) you found most helpful when working on your dissertation?

20. Is there anything you wish had been covered during the programme, which you think would have been useful for the dissertation?

4. Dissertation

21. How did you choose the topic for your dissertation?

22. How would you go about doing a literature review?

23. How did you select what methodology (method) to employ for your dissertation?

24. What do you think is the role of the dissertation as part of your MSc programme?

¹⁶ This question was added when the questionnaire was used for the 06/07 cohort.

25. What do you think are the characteristics of a good MSc dissertation?