

# **Conceptualising Financial Literacy**

*by Carolynne L J Mason  
and Richard M S Wilson*

## **Business School**

*Research Series  
Paper 2000:7  
ISBN 1 85901 168 3*



# **Conceptualising Financial Literacy**

by

Carolynne L J Mason and Richard M S Wilson

Business School Research Series

Paper 2000: 7

ISBN 1 85901 168 3

November 2000

THIS PAPER IS CIRCULATED FOR DISCUSSION PURPOSES AND ITS CONTENTS SHOULD BE CONSIDERED PRELIMINARY AND CONFIDENTIAL. NO REFERENCE TO MATERIAL CONTAINED HEREIN MAY BE MADE WITHOUT THE CONSENT OF THE AUTHORS.

## **ABSTRACT**

The term *financial literacy* is one that is not new. Financial literacy is perceived as important and as something to be encouraged in those who are not financially literate. These perceptions are exemplified by the existence of centres or bodies dedicated to financial literacy. These include the Financial Literacy Centre, University of Warwick, the National Endowment for Financial Education (USA), Financial Literacy Center (USA), and programmes such as the Start Right Coalition for Financial Literacy (Canada) and the JumpStart Coalition for Personal Financial Literacy (USA). In the UK the Money Management Council is involved in a number of projects aimed at raising the financial literacy of consumers.

And yet what does the term financial literacy actually mean ? What distinguishes a financially literate individual from one who is financially illiterate ? This paper explores literature examining aspects of individuals' financial literacy in particular contexts. Use of the term *literacy* is also explored. Current definitions were found to be lacking (clearly having implications for the operationalisation of the concept of financial literacy). These limitations are explored and suggestions are offered towards developing an explicit conceptualisation of financial literacy.

## **Conceptualising Financial Literacy**

### **Introduction**

The main aim of this paper is to examine the nature of the term financial literacy. The paper begins by looking at concerns that exist over an individual's ability to use financial information effectively and the implications of this. Following on from this studies looking at particular aspects of financial awareness are examined and questions raised as a result of this. An argument is then presented which suggests that financial awareness and financial literacy are not synonymous. It is also argued that financial literacy is a complex phenomenon in need of an adequate conceptualisation.

### **Why is financial literacy important?**

The authors' interest in financial literacy stems from the belief that every responsible manager will be involved in decisions relating to the acquisition, allocation and utilisation of resources and these processes inevitably have financial characteristics. In order to function in an effective manner, every manager needs to have a degree of financial literacy. This is applicable in (budget-constrained) public sector organisations as well as in (profit-seeking) private sector organisations.

There is a noticeable lack of literature concerned with the financial literacy of managers within organisations. There is, however, a great deal of interest in the financial literacy of individuals. Much of the interest shown in financial literacy stems from a concern over people's lack of financial literacy. This is particularly true where individuals are viewed as consumers of financial products. Concern has been expressed about the ability of these consumers to make effective decisions. (E.g. Schagen and Lines 1996, Jennings, Nelson & Boucher 1997). The evidence available suggests that financial information is used ineffectively to make decisions about financial products.

This concern, which is international, is exemplified by the existence of the Financial Literacy Centre at University of Warwick and also the existence of other bodies such as the National

Endowment for Financial Education (USA), Financial Literacy Center (USA), and programmes such as Start Right Coalition for Financial Literacy (Canada) and the Jump\$Start Coalition for Personal Financial Literacy (USA). In the UK the Money Management Council is involved in a number of projects aimed at raising the financial literacy of consumers.

The present government has recognised that there is a problem with public understanding of financial matters. In May 1997 the government announced it would create a single regulator for all financial firms and markets by merging the regulatory responsibilities of nine bodies. The resultant body is the Financial Services Authority (FSA). It is expected that the FSA will acquire its full range of powers under the Financial Services and Markets Bill in the latter half of the year 2000. The Bill will ensure that, along with its other three objectives, the FSA is charged with a statutory objective to promote public understanding of the financial system. In their consultation paper (1998) this statutory objective is referred to as 'consumer education'. (p. 3)

In May 1999 the FSA published its strategy to achieve this objective following a consultation process. It believes that its work will fall under two main headings:

**Education for financial literacy** - to provide individuals with the knowledge, aptitude and skills base necessary to become questioning and informed consumers of financial services and manage their finances effectively.

**Consumer information and advice** - to provide impartial information and generic advice to help consumers to plan their finances and make informed choices, while not being prescriptive or recommending individual products and services, or telling people to save. (p. 4)

Although not made explicit in the strategy statement, the first of these objectives could be viewed as improving people's ability to use information whilst the latter is aimed at improving the quality of information. The first objective is seen as a long term one:

'In the long term our widely supported priority is to ensure that education for financial literacy is embedded in the education system for all children to help them leave school

prepared for the rights and responsibilities of adult life. This is a necessary foundation for our work to promote public understanding to succeed.’

In order to become financially literate the FSA (1999) believes learners need to be given the following opportunities:

- to develop numeracy, literacy and IT skills in the context of personal finance;
- to develop an understanding of the nature and use of *money* in its various forms, including credit and debt;
- to learn how to access, interpret, question and evaluate financial information and advice;
- to learn about the consequences of financial decisions and about consumer rights and responsibilities; and
- to learn how to weigh up risks and benefits in order to choose appropriate solutions to particular financial needs.

In response to the comments received during the consultation process and, given limited resources, the prime targets for the FSA have been identified as follows:

- The FSA believes embedding financial literacy within the school curriculum will have the greatest impact in the long term.
- The adult population will also be targeted, in both the short and long term. The FSA acknowledge that the groups most in need of educational material are those least likely to actively search for it. They intend to tailor the material to the level of understanding of the priority groups and investigate barriers that prevent individuals taking advantage of the advice and information already available.

The FSA has been involved in the development of the new curriculum introduced in the academic year 2000 and it has been assured by the Department for Education and Employment (DfEE) and the Qualifications and Curriculum Authority (QCA) that financial literacy will be included in this revised curriculum. Similar consultation is underway with the Scottish Consultative Council on the Curriculum and the relevant bodies in Northern Ireland.

The FSA (1998) has recognised that very little is currently known about ‘current levels of public understanding and awareness of financial services and products’ (p. 15). It intends to fill this research gap. It states that current information indicates:

- general low levels of financial literacy in the population;
- low general awareness of needs;
- low levels of understanding of what is available , and performance of different products;
- ignorance of where and how to find out what they need to know.

On first glance this approach towards financial literacy seems reasonable and yet closer scrutiny of the available research raises a number of questions. Despite the level of activity revolving around financial literacy, there does not appear to be any published material attempting to characterise a financially literate person. Advice is offered to those who are considered financially illiterate, yet what makes one person financially literate and the next person not? Centres dedicated to financial literacy aim to improve an individual's financial literacy because there is evidence that some individuals make poor use of financial information and this is blamed on financial illiteracy, but what does this actually mean? In what way are these latter individuals failing to use information available effectively? Why do they not understand it? Do they not understand it or do they simply not make use of it? Is the information presented in a way that is unhelpful? Do the individuals lack the necessary skills to analyse and interpret the information? Do they use other sources of information (such as advice of friends and family) in lieu of making their own reasoned decisions? These questions and many others remain unanswered.

### **Financial awareness**

Whilst there is very little research dedicated to financial literacy there is a body of research looking at financial awareness. Researchers at Cardiff University have concerned themselves with examining financial awareness in various different contexts. The authors had very specific aims when conducting their work and these aims had nothing to do with generating a conceptualisation of financial literacy. Nonetheless, this work too raises questions about the way financial information is used by individuals and this necessarily has implications for

developing a conceptualisation of financial literacy.

Prior to an examination of the work conducted by the researchers at Cardiff mention is made of work by Lee and Tweedie. Lee and Tweedie( 1975a, 1975b, 1976, 1977) conducted surveys of private shareholders in two UK companies. In both cases, Lee and Tweedie found that shareholders paid little attention to many parts of the annual reports of these companies. At the time these studies were conducted there was much concern about the value and quality of financial reporting. In the light of many changes within the financial reporting environment ( e.g. the introduction of a cash flow statement, a statement of recognised gains and losses and an operating and financial review), Bartlett and Chandler (1997) conducted a replication of Lee and Tweedie's work in order to examine whether these changes had affected the way the reports were read by shareholders. The main aim of their study ' is to gauge the extent of ordinary shareholders' reading of annual reports'. (p.249)

Bartlett and Chandler conclude that the annual report is not widely read and few shareholders read the new statements. The narrative sections of the annual report have increased. When asked what other information shareholders would like to see disclosed there was very little agreement and Bartlett and Chandler suggest that " it is unlikely that general purpose annual reports are ever going to satisfy the widely differing needs of a large body of shareholders" (p.259).

One of the main reasons companies are required to produce annual reports is to provide information to shareholders which they can then use to influence their behaviour. Considerable effort is expended by companies to ensure that shareholders receive annual reports. Whatever the motivation for companies doing this the expectation is that shareholders will make use of the annual reports. In order to do this shareholders need to understand the information contained in the reports.

One possible use of the annual report is for shareholders to make investment decisions. It is suggested by Bartlett and Chandler (1997:p.247) that shareholders will use the financial information contained in the annual report to decide whether to increase, maintain or sell their shareholding in the company. Whether or not this is the case, Bartlett and Chandler's findings are important because they show that private shareholders are not reading annual

reports despite considerable effort aimed at improving the presentation of information contained in the annual report.

It is clear from Bartlett and Chandler's work that small shareholders are not reading the majority of the financial information contained in financial reports. Despite this, 84% of respondents stated that they made their own investment decisions. If these shareholders are not reading the annual reports, on what are they basing their decisions? Do they feel confident that the small part of the annual report that they do read provides them with sufficient information to make effective investment decisions? Bartlett and Chandler's work suggests that more emphasis needs to be given towards understanding firstly why some shareholders clearly read annual reports whilst others clearly do not and, secondly, the process by which small shareholders make their investment decisions.

Companies are providing small shareholders with information they do not read. Small shareholders may not read this because they lack the financial skills to understand what is presented or they may feel that this information is not relevant to their decision-making. Does this lack of reading stem from a lack of understanding or from a lack of interest? Bartlett and Chandler point out that only 8% of these respondents were active investors (i.e. trading at least once a month). One possible explanation for this is that financial awareness is linked with activity (i.e. those who trade more are the ones who are financially aware).

Bartlett and Chandler found that the narrative sections of the annual report attracted the widest readership. Why is this? Are small shareholders more confident in dealing with words rather than with numbers? Again, is this due to a lack of financial skill or are the narrative parts just more interesting for small shareholders? Do investors actually understand the narrative sections of the report or do they just simply **feel** that they understand because they are capable of reading the words but are not actually familiar with the concepts behind the words?

Peel and Pendlebury undertook a follow-up to a previous study (Peel et al. (1991)) they had conducted examining the relationship between employee share ownership and financial awareness. Many benefits potentially arise from employees owning shares in the company by which they are employed. Peel and Pendlebury(1998) were interested in one of these

potential benefits, improved financial awareness. The purpose of the follow-up study was to examine whether the resulting opportunity for employee ownership 'led to an increase in the use by employees of information sources about the company's financial performance, in their perceived understanding of this information and to an improvement in their own performance in a multiple choice test of accounting and finance knowledge' (p.2).

Peel and Pendlebury examined financial awareness in terms of performance in a test of basic financial /accounting knowledge and comprehension. They accept that 'financial awareness' has many different meanings and could therefore be measured in a number of different ways yet they do not offer a definition on which their measure is based.

The assumption held by the previous government (Peel et al. (1991)) was that increased share ownership by employees would lead to greater financial awareness. In this study, however, there is no attempt to describe how it was expected that these employees would have increased their financial knowledge. In what way would holding shares in the company improve employees' level of financial awareness? Is it suggested that possession of shares would lead employees to read the financial press and assimilate knowledge that way? Alternatively, would receiving annual reports inspire them enough to go out and acquire financial knowledge in other ways?

One of the most interesting issues raised by Peel and Pendlebury is their suggestion that those with greater financial awareness are more likely to become members of the share ownership scheme rather than those who become members of the share ownership scheme becoming more financially aware( p. 45). This would tie in with one of the questions raised by the work of Bartlett and Chandler(1997): that is, is increased financial activity associated with increased financial awareness? Does increased financial activity lead to increased financial awareness or vice versa? Alternatively, both of these measures could be causally linked to other measures such as accounting experience or interest in financial matters.

Another interesting finding is that the employees in this study, like the shareholders in Bartlett and Chandler's work, preferred company news bulletins and magazines to annual reports. Again, this would indicate that there is a preference for narrative presentation rather than numeric. Do people feel more confident reading written text ? It may be that narrative

necessarily offers some kind of analysis of the financial information it reports. For individuals lacking in financial awareness this interpretation may seem very attractive. It is, however, a dangerous tack for individuals lacking financial awareness to rely solely on narrative reports. The narrative report may allow them to feel confident that they understand the information presented when, in fact, they do not: they may recognise the words rather than the concepts underpinning those words. This then would result in individuals failing to be able to use the information presented effectively or being able to criticise that information.

There again appears to be a gulf between the information that is presented and the ability or willingness of the recipients to use the information effectively.

Both studies have found results which imply that annual reports are not well read or understood despite a considerable amount of effort aimed at achieving these objectives. These findings do not, however, totally undermine the assumptions previously outlined. Instead, they highlight the need to understand in far greater detail exactly how individuals do gain the skills they need to be able to analyse and understand financial information and, having gained these skills, how they employ them. The results have contributed towards understanding more about financial awareness but they also signal that financial awareness is a complex issue.

Another problem with both of these studies is that there is no discussion of the causes and consequences of a lack of financial awareness. Why are these individuals unable/unwilling to make use of annual reports? What are the implications of their not using the information with which they have been presented ? Without knowing the answers to these questions, any understanding of financial awareness is severely limited.

In the last decade, Marriott and Mellett have conducted a series of studies examining the financial awareness of NHS managers. They were interested in this topic due to the introduction of an internal market to the NHS. This meant decisions with financial consequences within the NHS are often made by those with a clinical training rather than a financial training. Marriott and Mellett conducted studies (1991, 1994, 1995, 1996) aimed at assessing the adequacy of managers in the NHS to make these decisions. They were concerned that, if these skills were lacking, incorrect financial decisions could be made.

In 1991, Marriott and Mellett conducted a pilot study from which they concluded:

“There exists a gap between managers’ financial skills and those which will be needed to operate efficiently the novel procedures in the reformed NHS. Managers are aware of these shortcomings, and are keen to redress the balance.....The full extent of the need for financial training within the NHS has not been identified ..... Unless these steps are taken the NHS will not operate to its potential as those taking decisions will not be in a position to make full or appropriate use of the information available.” (p.23)

One of the main contributions of this group of studies is that it has highlighted a lack of financial awareness on the part of managers within the NHS. This is of particular importance as managers with no requirement to be financially trained are required to make decisions with financial consequences without necessarily possessing the skills they need to be able to do this. This situation may be equally true of other organisations and therefore other research in alternative organisations (e.g. GP practices, councils, schools) may be timely. Individuals are being expected to make decisions with financial consequences without necessarily having the financial skills they require to be able to make these decisions in an effective manner. In the public sector this may be of particular relevance due to a move towards an emphasis on decision-making more traditionally associated with the private sector. These findings are important both for the NHS and for other public sector organisations that have also undergone similar reforms. In these other organisations too individuals may be making financial decisions which they are ill-equipped to make.

Marriott and Mellett have attempted to assess the adequacy of managers in the NHS to make sound financial decisions. In order to do this they have used a short questionnaire to assess

individuals' financial skills. Marriott and Mellett (1996) state that:

‘ the financial skill index used in the study is one proxy for financial awareness and there are numerous alternative approaches that can be adopted to measuring and analysing this managerial attribute.’ (p.72)

It is likely that the construct *financial skill* is made up of a number of facets only one of which has been measured here. This limits the claims that can be made as a result of this kind of study. It is possible to state that the individuals in this study do have limited financial skill as measured by the instrument developed by Marriott and Mellett. It does not guarantee, however, that their conceptualisation of *financial skill* is valid or that the way it has been measured is necessarily sufficient. As Marriott and Mellett imply in the quotation above, there is no single external measure of financial awareness.

The measure that Marriott and Mellett developed was commented on by those responsible for preparing and distributing budgets. They were confident that NHS managers would be able to correctly answer the questions it contained. This proved generally not to be the case. This therefore highlights again that there is a gulf between the way that financial information is presented and the way in which that information is actually utilised by its recipients.

Financial experts are compiling financial information for users who do not have financial expertise.

Despite inadequate conceptualisation, financial awareness has been measured using survey instruments by both Peel & Pendlebury and Marriott & Mellett. Marriott and Mellett recognise that this is not the only possible approach. By defining financial awareness in terms of understanding accounting concepts, a great deal remains unknown about financial awareness. Using Marriott and Mellett's ( 1996:64) definition, financial awareness is “...the manager’s ability to understand and analyse financial information and act accordingly”.

These researchers have measured the respondents’ ability to define and calculate a restricted number of accounting measures and calculations. Being able to define and calculate is not necessarily synonymous with being able to understand and analyse. Furthermore, although the respondents performed quite badly on these tests the implications are only hypothesised. In reality, they may still be able to understand and analyse other kinds of financial

information. In this case they would still be financially aware using Marriott and Mellett's (1996) definition, but it would not be possible to identify this from the latter's studies. As with the other work conducted at Cardiff, the causes of a lack of financial awareness have not been examined closely. Unlike the other studies at Cardiff, Marriott and Mellett were concerned with suggesting possible consequences of this lack of financial awareness. These consequences are purely hypothesised, however; there is no empirical evidence of these consequences offered by the Marriott and Mellett.

Numerous other questions remain unanswered in spite of this research. For example:

- Do these users understand the budgets they receive?
- Do the individuals who prepare the budgets feel that their users are using them effectively?
- Do the individuals in the sample really feel that the quality of their decisions is being affected by their lack of financial skills?
- Is there any evidence to suggest that 'bad' decisions are actually being made?

The researchers at Cardiff have divorced their studies from the actions of the individuals concerned, i.e. the intended readers of financial information. The reason that researchers are concerned with an individual's ability to understand and analyse financial information is that his/her actions are thought to depend on this ability. So, for example, shareholders' ability to understand annual reports is thought to affect their investment decision-making. We now know that they do not read annual reports thoroughly and yet we do not know what impact (if any) this has on their investment decision-making behaviour.

These studies are premised on the underlying assumption that a lack of understanding of financial matters has negative consequences and this has an appealing rationality. However, these studies have not actually demonstrated a link between financial awareness and individuals' ability to make sound decisions. The actual effect of financial information on the decision-making behaviour of these individuals has been ignored.

There appears to be a gulf between the way in which financial information is presented and the way in which that information is actually utilised by its recipients. Focusing on the supply

side of information can only go so far to eliminate the gulf. The studies also indicate that financial awareness is a complex issue which to date has not been conceptualised adequately.

These studies have shown that people seem to make better use of written information than they do numerical. Do people actually understand the concepts behind the words any better than they do the figures or do they just feel happier reading words rather than numbers? There appears to be very little that is actually understood about the way people make use of financial information.

There also appears to be a widely-held belief that more information (or clearer information) will lead to greater levels of financial literacy. Lee and Tweedie's work highlighted problems with shareholders not reading annual reports. In the time that followed great emphasis was placed on 'improving' the annual reports and this was expected to result in improved usage of the reports by shareholders. A similar response has been offered to the identification of poor levels of consumer understanding. An alternative approach is to focus on improving individuals' financial skills. What seems to be missing, however, is an attempt to understand why there is so much misunderstanding. Why are there poor levels of understanding? Why do shareholders not read the reports? How do these people compare to those who do understand reports?

The work at Cardiff has shown that individuals do not make good use of financial information and that this may be due in part to a lack of financial awareness. Future research is clearly required examining the causes and consequences of a lack of financial awareness or indeed the causes and consequences of greater financial awareness.

### **Financial awareness or financial literacy ?**

The focus of this paper is financial literacy and yet the discussion so far has used other terms including financial awareness. Is financial awareness synonymous with financial literacy or are they, in fact, two different constructs? The discussion below offers a conceptualisation of financial literacy and examines the relationship between financial literacy and financial awareness.

The term *literacy* is one with which we are all familiar and yet what does it actually mean to be literate ? Why is the term *literacy* used in conjunction with other words such as IT literacy , information literacy , statistical literacy or, in this case, financial literacy ? Is the phenomenon of interest financial literacy as opposed to financial awareness ? The following discussion aims to answer these questions, beginning with an examination of literacy.

## **Literacy**

Literacy is defined in the Collins dictionary as ‘the ability to read and write’ or ‘the ability to use language effectively’. The Oxford English Dictionary states that literacy is ‘The quality or state of being literate; knowledge of letters; condition in respect to education, ability to read and write’. These definitions probably encapsulate our initial thoughts about literacy. Numerous books, articles and research reports exist which focus on literacy and, to a lesser degree, on numeracy. Literacy is a topic of interest to individuals from a variety of backgrounds and is of interest for a variety of reasons. Literacy is examined, researched, discussed and written about by individuals including educators, psychologists, linguists, socio-anthropologists, civil servants, government ministers and those in the media. The fact that literacy is of interest to so many highlights immediately the importance of literacy. Whatever literacy actually is , it is subjected to a phenomenal level of enquiry. The perspectives of these interested parties are inevitably varied, each drawing its own conclusions according to its area of specialism.

A detailed discussion attempting to cover all that has been written about literacy is not relevant here. Equally, however, an exploration of the key characteristics of literacy is vital in order to establish that the phenomenon that concerns us is financial literacy and not financial skill or financial awareness for example. The following section aims to establish, firstly, that literacy is important and then, secondly, why it is considered important.

## **The Importance of Literacy**

Literacy and numeracy are rarely out of the newspaper headlines. There is a widely-held concern that standards of literacy and numeracy are falling dramatically within the UK, with negative consequences for both the individuals concerned and for society at large (Turner

1990). The debate continues as to whether this is the case but the importance of literacy and numeracy is highlighted by the UK government's decision to make literacy and numeracy its top priorities. In May 1996 the Labour Party set up The Literacy Task Force, the purpose of which was to develop a strategy for substantially raising standards of literacy in primary schools over a five to ten year period. The National Literacy Strategy was launched in July 1997.

It is not only in the UK that literacy is on the agenda. In the USA President Clinton stated, on International Literacy Day, September 1994:

‘ Literacy is not a luxury, it is a right and a responsibility. If our world is to meet the challenges of the twenty-first century we must harness the energy and creativity of all our citizens’.

The Basic Skills Agency is the national development agency for literacy, numeracy and related basic skills in England and Wales. In February 1999 the Basic Skills Agency planned an international conference entitled ‘Developments in Basic Education: raising literacy and numeracy standards’. On their web page advertising the conference the Agency states:

‘Over recent years the level of competence in the basic skills we need has increased. We are now surrounded by print: print that we have to be able to read, understand, and digest. Much of it demands a high level of comprehension, and the application of knowledge, rather than the simple ability to decode.

'Being numerate means more than just being able to use the four rules. Increasingly we have to understand complex information presented in charts and graphs, deal with percentages, and problem solving. Therefore, while few people are actually illiterate or inumerate, far too many have real difficulty dealing with words and numbers at the necessary level. All the evidence suggests that this changing level of demand will continue well into the next century.’

## **Illiteracy**

One way to establish the importance of literacy is to turn our attention to illiteracy. Illiteracy is conventionally portrayed as having negative consequences. Literacy is good, illiteracy is bad. This is clearly a value judgement. Whilst this appeals intuitively it is important to consider why illiteracy is portrayed in such a negative way as this will contribute towards our understanding of the importance of literacy and of literacy itself. In 1965 the United Nations published a booklet, *abc of Literacy*, with the intention of acquainting the general public with the problem of illiteracy and the efforts being made at the time to overcome illiteracy. In the book Burnet (1965) states

“There has always been illiteracy, but it has not always been a problem – not everywhere, at least. In isolated, self-sufficient societies, where life followed a traditional pattern and nobody knew how to read and write, illiteracy was no problem. But there are few such societies left. Illiteracy became a problem when modern means of transportation and communication began bringing peoples closer and closer together and those who had remained outside the stream of technical progress were pulled into the main current – when independence awakened dormant political consciousness in vast areas of the world – when communities and nations saw that the old ways could not continue and that new ways, based on modern science and technology, were necessary for survival. As technical development moves faster and faster, and as populations increase, the problem of illiteracy becomes more and more acute.” (p.11)

Only as societies become more complex and technologically-advanced does illiteracy become a problem. Individuals need to be well-equipped in order to respond to these advances. Literacy is important because it enables individuals to function more effectively. Burnet cites the example of one textile mill owner in Guatemala who states that ‘we will not hire an illiterate man’. The mill owners had developed their own school to teach workers to read and write, not as a result of philanthropy, but because:

‘ Experience showed that literate workers absorbed training faster and worked more efficiently. Productivity increased, and this permitted higher wage rates along with greater profits’ ( p.8).

According to this viewpoint the benefits of literacy can be measured in human and economic terms, at both an individual and a societal level. Literacy contributes to the well-being of the individual and also to the well-being of the society of which that person is a part. Illiteracy is viewed as negative because it prevents the rewards of advances being reaped by both individuals and society. Illiterate individuals cannot function as effectively as literate ones in complex societies. This view of literacy is known by some writers as functional literacy and is discussed in greater detail below.

Having established the importance of literacy and suggested that literacy is important because of the benefits that arise from being literate, these issues are now explored further in order to try to establish what literacy actually is.

### **What is literacy ?**

Literacy is important because it enables individuals to achieve objectives, that is it is functional. Functional literacy can be defined as:

‘A person is literate when he has acquired the essential knowledge and skills which enable him to engage in all those activities in which literacy is required for effective functioning in his group or community’ (UNESCO definition 1962 in Oxenham, 1980, p.87).

Burnet ( 1965) discussed the idea of functional literacy emphasising that there is a difference between acquiring the skills to be able to read and write and becoming literate. Functional literacy is viewed by Burnet as:

‘the key that unlocks the door to the future, because the person who has achieved it has learned to learn for himself, and has thus gone a long way toward making his fundamental right to education a reality. He no longer has to be content with what other people choose to teach him; he can find out for himself what he wants to know. He can improve his occupational status and enrich his leisure. He has learned to reflect on what he reads, to make comparisons and draw his own conclusions.’ (p.14).

Literacy is not simply about reading and writing (although there is nothing simplistic about

the acquisition of these skills ). In these few sentences Burnet indicates that literacy is shown at the very least to be about:

- Learning
- Achieving status
- Achieving human rights
- Knowing
- Making choices
- Improving occupational status and wealth
- Improving leisure pursuits
- Making comparisons
- Creating and confirming conclusions.

It is no wonder that literacy is of such value. There appears to be little that we value in western society that is not affected by literacy . In what way though does literacy allow all these outcomes to happen ?

### **Meaning Making**

In her book *Literacy* Margaret Jackson (1993) attempts to respond to the question "What is literacy?" Jackson notes that the term literacy is 'very rarely carefully defined' (p.1.) In the Preface to the book Jackson outlines her approach to the book and towards literacy as follows:

‘Literacy offers us access to information, ideas, opinions and by creating the potential for reflecting, provides opportunities for making and communicating meaning, and for learning.’

Literacy enables individuals to make meaning and to learn and this we would argue, along with Jackson, is the key element of literacy . In order to operate effectively within society individuals need to make sense of and understand the world in which they operate. In less complex societies hunters need to respond to the environment in order to survive. In complex societies a great deal of the information required in order to make sense of the environment is

contained within the symbolic representation systems commonly known as words and numbers. Individuals' chances of operating effectively are greatly enhanced by being able to make sense of these words and numbers.

Complex societies present challenges to those who operate within them. In order to operate effectively within these societies individuals must make sense of or understand the challenges that are set. Literacy enables individuals to make sense of the world, to reflect on the world, to communicate with others and to learn .

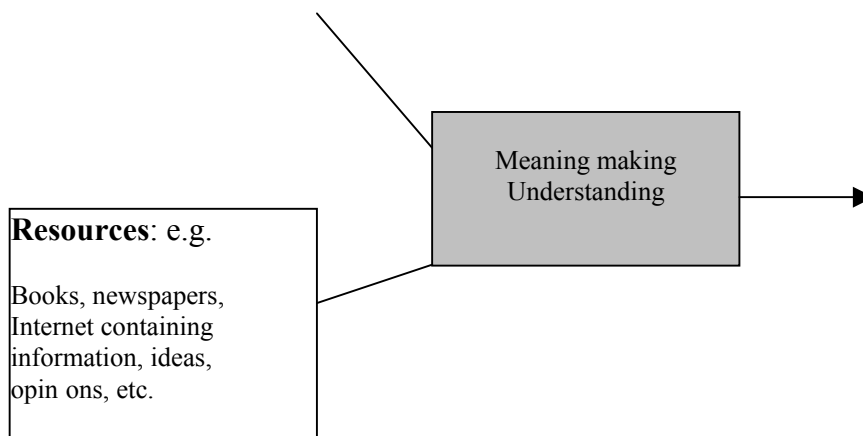
Whilst recognising that literacy involves individuals being able to read and write, Jackson's definition above also highlights that these skills on their own are not sufficient for an individual to become literate; individuals must also be able to reflect in order to make and communicate meaning and also to learn. This approach again highlights the importance of literacy. Separating the importance of literacy from what literacy actually is proves very difficult.

The use of the terms 'offers', 'potential' and 'opportunities' indicates again that literacy is important because of the benefits that arise for those who are literate. It is important to note that these benefits are all possibilities rather than guaranteed consequences. Opportunities have to be responded to. There are no short-cuts with literacy, the individual must be pro-active in order to derive benefit from literacy. This pro-active theme is expanded by the use of the verbs reflecting, making, communicating and learning. Burnet (1965) used similar verbs in her description of functional literacy . Literate individuals have certain opportunities but in order to utilise these effectively they must be active and draw on a variety of personal skills including their ability to read, write, speak and reflect. Hoggart (1957) also reflected that literacy is not always used to its best advantage and that the changes it brings are not necessarily positive ones.

The points raised so far can be represented diagrammatically as shown in Figure 1.

**Figure 1 : Literacy viewed as a Meaning Making Process**





Reading and writing are skills necessary for the attainment of literacy but they do not constitute literacy itself. Equally the likelihood of possible benefits or outcomes are greatly enhanced by one's being literate but are not certain and therefore cannot be considered to constitute literacy. Literacy is shown here to be a process whereby individuals use a combination of their skills and available resources to make sense of or understand those resources in order to achieve objectives.

## **Other Aspects of Literacy**

### **Changing nature of literacy**

What actually constitutes a literate person will vary 'from culture to culture and from period to period' (Jackson (1993:2)). Historically, literacy was viewed as an 'elevated phenomenon' (Jackson (1993:2) for reasons including the following:

- Literacy was associated with social status since books were only available to the rich.
- Literacy has also been closely tied up with religion in that the 'Word' emanates from religious texts which again historically could only be accessed by the masses through the 'literate hierarchy'.

Literacy then can be seen to be something that is both evolving and also deeply rooted within

a society's culture.

## **Context**

As society changes and becomes more complex literacy also changes and becomes more complex. There are areas of the world where literacy has no role to play in society. Jackson (1993) believes that literacy is crucial because it 'enables everyone to operate within the society of which one is a part.' This view highlights again the functional aspect of literacy.

## **Degrees of literacy**

The aim of the Basic Skills Agency is to develop literacy and numeracy and other related basic skills. Basic skills are defined by the Agency as :

' the ability to read, write and speak in English and use mathematics at a level necessary to function and progress at work and in society in general'.

In order to develop literacy and numeracy within our society the Basic Skills Agency prioritises the ability to read, write and speak and use mathematics. These 'basic skills' are considered to be a fundamental part of literacy. The definition includes the phrase 'at a level necessary to function and progress at work and in society in general' and this phrase ties in well with the idea of functional literacy. Importantly, however, this also implies there are varying degrees of literacy and numeracy and that there is a minimum level of skill which is required firstly in order to 'function' and secondly in order to 'progress'.

Literacy is a process that develops over time. Children become more literate as they get older. They improve their skills and this enables them to complete more and more complex tasks.

## **Socially constructed activity**

Gee(1990) sees literacy as a socially constructed activity and suggests that literacy both contributes towards creating the reality in which it operates and is simultaneously influenced

by reality; ‘each has a part in the construction of the other’ (p.5).

### **Schools and literacy**

When we think of literacy it is hard not to conjure up images of a school classroom. Literacy and schooling seem inextricably linked ( Jackson (1993), p 154). For some authors this is problematic. Cook-Gumperz (1986) challenges the assumed link between schooling and literacy in the belief that literacy is a social construction.

Whilst the focus of the government’s plans to improve literacy appears to be primarily through schools there is also a recognition that a combined effort is required. Stephen Byers, the minister responsible for launching The National Literacy Strategy, stated:

‘We need action now to achieve the improvements in standards that we so desperately need. We must invest in our youngsters and the teaching profession to work in partnership with parents, LEAs, schools, OFSTED, SCAA and the TTA to come together and raise expectations and standards.’

The methods of teaching literacy in school have recently undergone significant changes. From September 1998, 18,500 English state primary schools were required to introduce The Literacy Hour. This was followed by its younger sibling, The Numeracy Hour .

### **Conceptualising literacy**

An attempt is now made to begin to answer the question “What is literacy ?” Literacy is vital to a complex society. Literacy allows individuals to achieve objectives that allow them to develop as individuals. Literacy also ensures society evolves through the development of its individual members. Table 1 highlights the key points raised above in tabular form. The table attempts to answer the following questions :

- What is literacy ?
- What are the main characteristics of literacy ?
- On what does literacy depend ?

- What does literacy facilitate ?

**Table 1 : Literacy – Definition, characteristics, pre-requisites and outcomes**

Literacy is:	Characteristics	Is Dependent on:	Leads to:
Meaning making Understanding	<ul style="list-style-type: none"> <li>• Highly valued</li> <li>• High level of interest</li> <li>• Concern over standards</li> <li>• Has various degrees</li> <li>• Varies from culture to culture and from time to time</li> <li>• Constantly evolving</li> <li>• Belief it can be taught</li> </ul>	<ul style="list-style-type: none"> <li>• Acquiring necessary skills</li> <li>• Acquiring necessary level of skill</li> <li>• Availability of resources</li> </ul>	Positive outcomes for both individual and society including: <ul style="list-style-type: none"> <li>• Learning</li> <li>• Achieving status</li> <li>• Achieving human rights</li> <li>• Knowing</li> <li>• Making choices</li> <li>• Improving occupational status and wealth</li> <li>• Improving leisure pursuits</li> <li>• Making comparisons</li> <li>• Creating and confirming conclusions</li> </ul>

A literate individual is one who has a set of skills and abilities that allows him/her to make use of resources available to him/her in order to achieve objectives. The set of skills includes reading, writing, speaking and using mathematics. Skills also include being able to reflect. The resources available to us in a complex society are extensive with books being almost the tip of the iceberg. The objectives for those who are literate are probably infinite. Jackson (1993) outlines a typical day where she begins by reading the shampoo bottle in the shower and moves through the day until she finishes by reading in bed. She states that during the day she has used print to ‘inform, to remind, to persuade, to keep in touch, to amuse, to instruct and to disturb’. (p.90)

The assertion that literacy is constantly evolving is problematic. How do we know if someone is literate or not if we cannot be clear what we actually mean by literacy ? One approach to this would be to return to the functional nature of literacy. Literacy is important because it allows people to achieve their objectives. This allows us to develop a conceptualisation based on functionality. Is a person sufficiently literate to be able to achieve his/her objectives ? If so, then that person can be considered literate, if not, then he/she is effectively illiterate.

## **Other kinds of literacy**

Having examined what it means to be literate in the conventional sense this discussion now goes on to examine other kinds of literacy in order to:

- examine whether literacy is conceptualised in consistent ways;
- examine whether the term is being used in ways consistent with the argument outlined above;
- develop a conceptualisation of financial literacy.

## **Use of the term literacy**

The term literacy is one that has been adopted by practitioners from a variety of backgrounds. A search of the literature identified a host of descriptions that included literacy in their title. These included Computer literacy (Day 1987), Economic literacy ( Whitehead 1989), Electronic literacy (Craver 1997), Information literacy ( Kulthau 1991, Mutch 1997), Internet literacy (Martin 1997), Multimedia literacy (Hofsteter 1995), Political literacy (Institute of Education 1983), Scientific and technological literacy (Layton 1994), Statistical literacy (Haack 1979), Teleliteracy (Bianculli 1992) and Visual literacy (Wilde 1991).

An examination of some of this literature highlighted that some of the characteristics identified in Table 1 are replicated in these other uses of the term. The term *literacy* is often used with little or no care being paid to its definition. Definitions are sometimes not offered at all, and those that are offered are frequently found to be deficient. The following discussion highlights the main findings from this review.

### **3.2 Literacy used in other contexts**

Information literacy is one of the most frequently identified alternative uses of the term *literacy*. As with conventional literacy, there is a large amount of multi-disciplinary interest in the concept of information literacy. There has been a huge increase in the sheer volume of information in the latter half of this century due to developments including improvements in

mass production printing techniques, wide availability of personal computers and, more recently, the arrival of the Internet. Schuman (1991) states:

‘A weekly edition of the *New York Times* contains more information than the average person was likely to come across in a lifetime in seventeenth-century England. The English language now contains 500,000 words, five times more than in Shakespeare’s lifetime. The collection of the large research libraries has doubled in the last fourteen years. We readily throw out with our nightly garbage more print than past generations dreamed it was possible to own.’

The availability of all this information has led to concerns over how to manage it and this is where much of the interest in information literacy has stemmed from. Individuals from two disciplines in particular, library studies and computing, have made information literacy a focus of their concerns. This inter-disciplinary interest has ensured that there is no single definition of, or approach to, information literacy.

The American Library Association’s Presidential Committee on Information Literacy (1989) define information literacy as:

‘To be information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate, and use effectively the needed information.

Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organised, how to find information, and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they always find the information needed for any task or decision at hand’ .(p.1)

There are clearly parallels that can be drawn between this definition of information literacy and the earlier conceptualisation of literacy. This definition certainly attaches a great deal of importance to information literacy. This importance again stems from the outcomes that information literacy can deliver. The definition implies that information literacy is important because it enables individuals to:

- learn how to learn;

- be prepared for lifelong learning;
- to find the information needed for any task or decision at hand.

Another important theme in this definition is *learning*. The objective for information literate individuals is to learn. Learning was identified as one of the outcomes of being literate. Again there is an emphasis on individuals needing certain skills and resources in order to achieve desired outcomes. Clearly the relationship between learning and meaning making or understanding is in need of greater exploration.

### **3.3 Emphasis on skills rather than on understanding**

Much of the literature which deals with these other kinds of literacies is written as a result of concerns over standards. These concerns could be expressed by educational practitioners concerned that their students are not performing well or by managers concerned that the expected benefits of a new computer package have failed to materialise. Frequently, concerns over standards can be linked to concerns over lack of understanding or meaning making by the individuals concerned.

In his book on statistical literacy, Haack (1979) states that the aim of the book is to get away from formulae when teaching statistics. Instead he states ;

‘the purpose is to get students to understand the principles of hypothesis testing without trying to make them decide which of many tests is ‘best’.’ (p.x)

Without actually offering a definition of statistical literacy ( other than by offering it as a mechanism to overcome *statistical doublespeak*), by using the term *statistical literacy* Haack has deliberately moved away from the actual techniques used in statistical analysis and has instead viewed literacy as being about understanding. On p.3 he states ‘Our emphasis is on understanding and interpreting the statistics.’

This emphasis on understanding is also argued by writers concerned with *information literacy*. Kuhlthau (1990) urges librarians to put less stress on teaching traditional library skills and more on facilitating the process of using and evaluating information resources

across the curriculum. In describing a library programme centred on information literacy Kuhlthau states:

‘ Information literacy is not taught as a separate course but is integrated with learning across the curriculum.....and is developed around the basic need of every person to find meaning and understand his or her world.’

Concern has been expressed by authors involved with information literacy that too little emphasis is given to understanding. The advent of computers was expected to be associated with an improvement in the way that businesses and organisations functioned. The increased capacity for processing data was expected to lead to improved efficiency and better decision-making. R.K. Stamper warned more than 25 years ago:

‘The explosive growth of information technology has not been accompanied by a commensurate improvement in the understanding of information. It is undoubtedly easier to manufacture and distribute electronic hardware than refine our concepts of information and disseminate them to the hardpressed men and women who are trying to put the new technology to work in government, industry and commerce.’ (1973:1)

Mutch (1997) feels that the situation has not improved and may have worsened ‘as computers are able to generate huge quantities of data which are either misused by or overwhelm those who are on the receiving end’. One of the reasons he suggests for this ineffective use of computers is the fact that information itself is not well understood and the relationship between data and knowledge is often not recognised. Concerns are directed at the process of acquiring, maintaining and delivering data rather than understanding exactly why data is required, what use it will be and in what way it will be used. Mutch discusses ‘the observable phenomena (sic) of more data leading to worse decision-making. Because those who are using the data have not been equipped with the capability to use it through confronting issues of meaning and knowledge, the extra data simply leads to overload and paralysis’. ( p. 378)

IT literacy or computer literacy are frequently treated as being distinct from information literacy. This is problematic in that there is often a concentration on the associated skills rather than a recognition that the computer is being used in order to obtain information for a

purpose. Mutch (1997) suggests that one response to these problems is to move away from treating data processed by computers as different from any other kind of information. In this way Mutch suggests that the concept of interest becomes information literacy rather than IT or computer literacy but suggests, before a satisfactory definition of information literacy can be reached, that it is necessary to understand what information is.

Mutch argues that information is better treated as a process rather than a thing. Whilst he recognises that there is considerable support for information being regarded as a thing, including the attempts by many to capitalise information as a business asset (see for example, Wilson et al. 2000a and 2000b), Eaton and Bawden (1991) claim that information is different from other assets in that it is not consumed in use, and is dynamic and unpredictable. These qualities, Mutch states, stem from the fact that the information has meaning endowed by the user. Boland (1987) states that information:

‘...is not a resource to be stockpiled as one more factor of production. It is meaning, and can only be achieved through dialogue in a human community. Information is not a commodity. It is a skilled human accomplishment.’ (p. 377)

Again the key element that is of interest is understanding or meaning. Information is only of use if it is understood and used appropriately. As Mutch states:

‘What is being suggested is that to be truly literate in the use of information demands a focus initially on the questions one is seeking to ask, rather than on the identification and retrieval of data – although these are obviously vital skills’ (p. 383).

In other words, the availability of resources, generically termed information, and the combination of hardware and skills to access these resources are not sufficient to ensure positive outcomes, such as good decision-making. A crucial part of the process has been omitted, namely meaning-making or understanding, according to Mutch and others.

The term *literacy* appears to be borrowed when a problem is in need of a solution. With statistical literacy it was students’ inability to understand the statistics they use, whilst for information literacy problems stem from the large volume of data and people’s inability to

use the information effectively.

The interest in literacy arises when people are illiterate and cannot, therefore, achieve their objectives. Problems present themselves, such as an inability to use a computer or an inability to make good financial decisions, and literacy is commonly seen as providing the answer. When authors write about developing literacy the development is needed in order to overcome a problem that has been recognised. Concern then turns to one particular stage depending on the background of the interested party. Financial literacy is also a term that has arisen as a result of the identification of a problem. Individuals have been shown to be ineffective in their use of financial information.

### **Conceptualising financial literacy**

Here, it is proposed that the term *literacy* is synonymous with understanding or meaning making and that this meaning-making is a prerequisite for the achievement of desired outcomes or objectives. With financial literacy these outcomes have financial consequences.

Financial literacy could therefore be defined as:

‘ an individual’s ability to obtain, understand and evaluate the relevant information necessary to make decisions with an awareness of the likely financial consequences’.

There is clearly a similarity here between information literacy and financial literacy . This is not surprising since information that has financial implications is still information. The difference between the two terms arises because the outcomes are different.

The definition attempts to recognise that information relevant to decision-making may not necessarily be financial information in its strictest sense. For example, a school may face a reduced intake of pupils. This in itself is not financial information yet there are financial implications where a school’s funding is determined by the number of pupils. The ability to recognise these financial implications is fundamental to financial literacy.

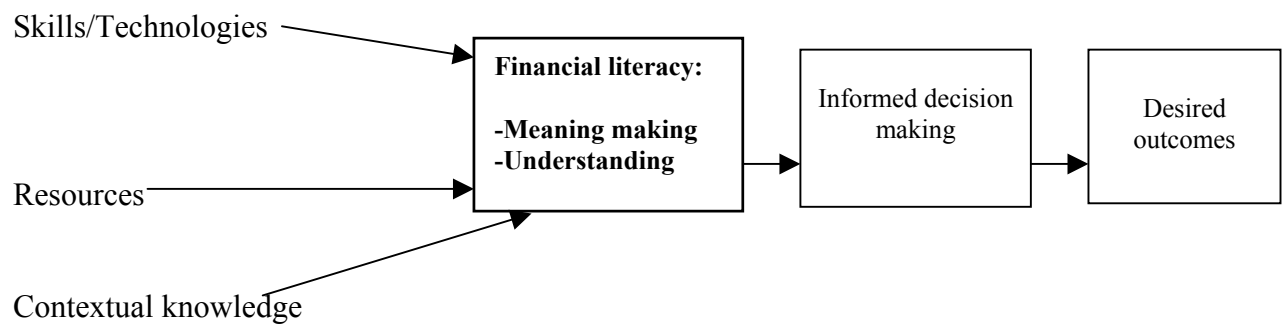
It is intended that informed decision-making is recognised as being instrumental in achieving

desired outcomes. It seems likely that the majority of these outcomes will follow on from a decision being made which then is followed by a course of action. It is hard to think of an example where financial literacy is relevant where a decision is not implicit. Even in cases where people use financial information to ensure that their current behaviour is appropriate ultimately a decision will be required whether or not to continue with their current actions. An individual looking at his/her current savings or pension provision will need to make a decision whether to continue with his/her current strategy or whether to make alternative arrangements. Equally an individual within an organisation will also need to be able to obtain and understand the relevant information to ensure the current or proposed actions are appropriate. It is important to note here that financial literacy can only ensure individuals are informed to make decisions, it cannot ensure the 'right' decision is actually made. This is because, *inter alia*, individuals do not always make decisions based purely on economic rationality (see, for example, Wilson & Zhang (1997)).

In this definition financial literacy is seen as being distinct from the achievement of desired outcomes resulting from decision-making. Differentiating literacy from the outcomes it enables is not to say, however, that achieving the desired outcomes is incidental to literacy. The outcomes give literacy its importance. If there were no desired outcomes then literacy and financial literacy would be unimportant. To illustrate the point in terms of the conventional use of the term *literacy*, people read books for a purpose. This purpose may be for pleasure or, alternatively, to acquire knowledge for example. In order to achieve either of these objectives a person needs to be literate, that is he/she makes use of a range of skills to read the resource (the book) in order to understand it. Without this understanding the chances of achieving the desired outcome is dramatically reduced. Whilst it is possible with a very basic knowledge of French to read a book written in French, without an understanding of the language and the associated concepts, the exercise is pointless.

Furthermore, it is proposed that it is functionality that establishes the importance of financial literacy and it is the outcomes that determine the nature of financial literacy required. Literacy is conceptualised in this study as a meaning making process which enables informed decisions to be made in order to achieve desired outcomes as shown in Figure 2.

**Figure 2: Financial Literacy viewed as a meaning making process**



In this model it is proposed that individuals use a combination of skills and technologies, resources and contextual knowledge to make sense of information in order to be sufficiently informed to make decisions with an awareness of the financial consequences. These terms have been deliberately adopted as general descriptive terms. No attempt has been made to identify exactly which skills are required in order to become financially literate for example. The reasons for this are:

- The aim of the model is to emphasise financial literacy as a *process* leading to desired outcomes. Any attempt to try to identify exactly which skills, technologies, resources and contextual knowledge are required at the outset would potentially detract from this conceptualisation.
- The second reason why no attempt has been made to elaborate on these terms is that there is very little evidence offered currently which would allow this elaboration to be possible. Very little work appears to have been done looking at the interplay between these factors and the way in which the presence of these skills contributes towards individuals being able to understand the factors relevant to making decisions with financial consequences.

### **Financial literacy and Financial awareness**

So what is the relationship between financial literacy and financial awareness ? The researchers at Cardiff had very precise aims when they conducted their research. They wished to examine a particular aspect of financial knowledge. Financial awareness was

measured according to a set of pre-conceived concepts. No explanations of possible causes or consequences of high levels of financial awareness were offered.

Here it is suggested that financial literacy must be conceptualised as a complex phenomenon whereby individuals make sense of information in order to assess the financial consequences of their decisions made in order to achieve desired outcomes. It is suggested that financial awareness is a part of financial literacy. In order to be financially literate individuals must be financially aware. However, individuals may be financially aware without being financially literate. The NHS managers in Marriott and Mellett's study may have performed exceptionally well on Marriott and Mellett's test of financial skill and yet still failed to make decisions with an awareness of the financial consequences effectively. They may still have not understood the factors relevant to their decision-making and therefore been financially illiterate. Alternatively, the managers may have performed badly on Marriott and Mellett's test and still have been financially literate. That is, they may still have been able to locate and understand the information relevant to their decision-making.

Financial awareness has been examined as a measure of people's understanding of terms that already exist, terms such as balance sheet, budget and depreciation. The relationship between people's understanding of these terms and their ability to make decisions has not been examined. Individuals may have very good knowledge of certain financial terms, and therefore be financially aware, and yet be unable to recognise the relevance of other information which prevents them from recognising the financial consequences of any decision they may make. This may ultimately prevent them achieving their desired outcomes. In this instance an individual would be financially aware but financially illiterate.

## **Conclusions**

Clearly financial literacy can be seen as having great importance. To some degree this "self-evident" importance has resulted in very little attention being devoted to developing an adequate conceptualisation. Understandably, the focus has instead been devoted to encouraging individuals to become financially literate. This is clearly problematic. Without an adequate conceptualisation, how can financial literacy be operationalised? How can individuals be encouraged to be more financially literate if we cannot recognise it when it

happens?

## References:

- American Library Association Presidential Committee on Information Literacy. *Final Report* (1989), Chicago: American Library Association.
- Bartlett S.A. & Chandler R.A. ( 1997): The Corporate Report and the Private Shareholder: Lee and Tweedie Twenty Years On, *British Accounting Review*, Vol. 29, pp.245–261.
- Bianculli, D (1992). *Teleliteracy*, Continuum, New York.
- Boland, R.J (1987): The in-formation of information systems, pp.363-381 in R.J. Boland and R.Hirscheim (ed.) (1987) in *Critical Issues in Information Systems Research*, Wiley, Chichester.
- Burnet, M ( 1965): *abc of literacy*, Paris: United Nations.
- Craver, K.W.(1997): *Teaching electronic literacy : a concepts-based approach for library media specialists*, Westport, Conn; London: Greenwood Press.
- Cook- Gumperz, J. (ed.) (1986): *The Social Construction of Literacy*, Cambridge: Cambridge University Press.
- Day, J.M.(1987): *Computer literacy and library and information studies: a literature review*, British Library Research Paper 18, London:BL.
- Draft *Financial Services and Markets Bill*, July 1998, available via HM Treasury's Website.
- Eaton, J & Bawden, D (1991): What kind of resource is information? *International Journal of Information Management*, Vol. 11, pp.156 165.

Financial Services Authority (1998): *Promoting public understanding of financial services : a strategy for consumer education*, November, Consultation Paper 15, London:FSA.

Financial Services Authority (1999): *Consumer education: A strategy for promoting public understanding of the financial system*, London: FSA.

Gee, J (1990): *Socio Linguistics and Literacies*, Basingstoke:Falmer Press.

Haack, D.G. (1979): *Statistical Literacy – A Guide to Interpretation*, North Scituate, Massachusetts: Duxberry Press.

Hofsteter, F.T.(1995): *Multi-media literacy*, New York; London: McGraw-Hill.

Hoggart, R (1957): *The Uses of Literacy*, Harmondsworth: Penguin Books.

Institute of Education (1983): *Teaching political literacy : implications for teacher training and curriculum planning*, University of London, Institute of Education, Paper 16.

Jackson, M (1993): *Literacy*, London: David Fulton Publishers.

Jennings, M, E.Nelson & A. Boucher (1997): Financial Literacy: the cost of ignorance, *RSA Journal*, March pp 31-35.

Kulthau, C.C. (1991): Introduction in , Jana Varlejs (ed) (1991) *Information Literacy: Learning How to learn*, Proceedings of the Twenty-eighth Annual Symposium of the Graduate Alumni and Faculty of the Ritgers School of Communication, Information and Library Studies, 6 April 1990, Jefferson : McFarland & Company.

Layton, D (1994): *Scientific and technological literacy : meanings and rationales: an annotated bibliography*, Leeds: Centre for Studies in Science and Mathematics Education, University of Leeds in association with UNESCO.

Lee, T.A. & Tweedie, D.P. (1975a): *Accounting Information: An investigation of Private*

- Shareholder Usage, *Accounting and Business Research*, Vol. Autumn, pp 280–291.
- Lee, T.A. & Tweedie, D.P. (1975b): Accounting Information: An investigation of Private Shareholder Understanding, *Accounting and Business Research*, Vol. Winter, pp.3-17.
- Lee, T.A. & Tweedie, D.P. (1976): The Private Shareholder: His sources of Financial Information and His Understanding of Reporting Practices, *Accounting and Business Research*, Vol. Autumn, pp.304–314.
- Lee, T.A. & Tweedie, D.P. (1977): *The Private Shareholder and the Corporate Report*, London, ICAEW.
- Marriott D.N. & Mellett H.J. (1991): *The Financial Awareness of Managers in the Reformed NHS* Occasional Research Paper No. 10, London: ACCA.
- Marriott D.N. & Mellett H.J. (1994): *Resources, Responsibility and Understanding in the NHS*, Research Report 37, London: ACCA.
- Marriott D.N. & Mellett H.J. (1995): The level of Financial skills of National Health Service Managers, *Financial Accountability & Management*, Vol. 11, No 3, pp 271–282.
- Marriott D.N. & Mellett H.J. (1996): Health care managers' financial skills: measurement, analysis and implications, *Accounting Education: an international journal*, Vol. 5, No 1, pp.61-74.
- Martin, L.H.M.(Ed.) (1997): *The challenge of Internet literacy : the instruction-Web convergence*, New York; London: Haworth Press.
- Mutch, A (1997): Information Literacy : An Exploration, *International Journal of Information Management*, Vol.17, No.5, pp.377–386.
- Oxenham, J (1980): *Literacy : Writing, Reading and Social Organisation*, London:

Routledge and Kegan Paul.

Peel M.J. & Pendlebury M. (1998): *Employee Share Ownership and Financial Awareness: Some Further Evidence*, ACCA Research Report No. 24, London : ACCA.

Peel, M.J., Pendlebury, M.W. & Groves, R.E.V. (1991): *Employee Share Ownership, 'Financial Awareness' and the Reporting of Financial Information to Employees*, ACCA Research Report No. 22. London: ACCA.

Schagen, S & Lines, A (1996): *Financial Literacy in Adult Life*, Slough: National Foundation for Educational Research.

Schuman, P.G. (1991): Introduction in Jana Varlejs (ed) (1991), *Information Literacy: Learning How to learn*, Proceedings of the Twenty-eighth Annual Symposium of the Graduate Alumni and Faculty of the Rutgers School of Communication, Information and Library Studies, 6 April 1990, Jefferson : McFarland & Company.

Stamper, R.K. (1973): *Information in Business and Administrative Systems*, Batsford: London.

Turner, M (1990): *Sponsored Reading Failure: an object lesson*, Chelsham Common : Education unit, Warlingham Park School.

Wilde, J (1991): *Visual literacy : a conceptual approach to graphic problem solving*, New York: Watson-Guptill.

Wilson, R M S, J A Stenson & C Oppenheim (2000a): *Valuation of Information Assets*, London: BLRIC, Library and Information Commission Research Report 33.

Wilson, R M S, J A Stenson & C Oppenheim (2000b): *The Valuing of Information Assets in UK Companies*, London: BLRIC, Library and Information Commission Research Report 80.

Wilson, R.M.S. & Zhang, Q (1997): Entrapment and Escalating Commitment in Investment Decision Making: A Review, *British Accounting Review*, Vol. 29, pp.277-305.

Whitehead, D.J & Halil, T (1989): *he test of economic literacy : Standardization in the U.K.*, Research Papers in Economics Education, Institute of Education, University of London.