The Economic Cost of Current English Spelling

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Redactor's note: this paper comprises an academic research project and therefore (for the purposes for which it was prepared) covers much ground on the validity of the research methodology before moving on to the findings and conclusions. Certain other editorial changes have been made to the original in order to make the dissertation suitable for the web.

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Abstract

For today's world of fast technological development and the competitive climate surrounding employment, education - or at least basic skills - seems to be of vital importance, and the government is spending large amounts of money on education and improving standards. However, despite this, 20 percent of people in the UK remain illiterate or incapable of coping with normal life due to poor literacy skills, incurring additional costs to the government which is (because of the nature of education as a public benefit) predominantly funding most education in UK. Therefore it is important to consider carefully where the funding should be directed and whether there is any opportunity to reduce the expense. There is a perception that the high levels of illiteracy can be due (amongst other things) to an over-complicated spelling system. It has been observed that people who cannot spell are likely to have problems with reading, and consequently also with any kind of further education, thus increasing illiteracy and adding costs to the economy through unemployment costs etc. This paper therefore sets out to explore the costs which spelling can incur by being too difficult, with a particular focus on time and money spent on teaching spelling at primary schools which could possibly be avoided if spelling reform were to take place.

Introduction

In the world today, despite the attempts by the government to make basic education compulsory, a large number of people remain illiterate. This can have a far-reaching effect on the private life of these individuals, ranging from mild effects such as low self-esteem and a low-paid labour job to more significant and possibly life threatening effects such as obesity, depression, drug abuse or engagement in criminal activities, all of which can be shown in some cases to be linked with the level of literacy of the people involved. These repercussions all have their roots in the fact that illiterate people do not seem to be able to find their place in society and thus incur more costs for themselves as well as for third parties which would, in this case, be the state (and sometimes also the private sector); and this consequently brings a negative impact and additional costs for the economy. These could include unemployment and hence less money coming in in the form of taxes and national insurance contributions, and more money going out in the form of various benefits to support those who cannot find work because they simply cannot read (sometimes it is the case that people cannot fill in the application form for a job, sometimes they might be able to get as far as filling in the form but fail to get the job because they are unable to process it properly – for example by not being able to read the instructions). There are also costs for the health service for those who suffer from depression or low self-esteem stemming from the fact that a lack of the basic skills prevents people from fitting into society. Furthermore, people such as these might fall victim to the temptation of earning their living in ways which do not involve being able to read more easily than those educated people who have different options. This again imposes costs on the state which has to care for those imprisoned and put more money into crime prevention;. furthermore, statistics suggest that prisoners who remain illiterate upon their release are the most likely to re-offend (www.spellingsociety.org/kids/cost.htm). Furthermore, there are also

costs such as funding remedial work with adults and teenagers as well as extramural activities improving basic literacy skills, or courses such as “Get rid of your gremlins”. Costs are also incurred by the private sector; for example some companies, in order to have a workforce with at least basic skills, invest money into remedial work and courses for their employees.

However, due to the politics of the economy of social policy and the nature of education as a public benefit, many costs are being covered by the state, not just the cost of education itself but also the costs arising from the need to cover for a lack of education which has resulted (amongst other things) in illiteracy. Since this might represent a fairly large slice of gross domestic product it is vital to consider carefully where funding should be directed. This is where the reasons for illiteracy come in, as they could perhaps be eliminated so that funding could be transferred to something more necessary.

These reasons could simply be lack of education or the fact that parents who cannot read themselves are not able to help their child to learn. However there is a perception that a possible reason for illiteracy might also be the over-complicated spelling system which is so specific to English-speaking countries. This can in a way be deduced for example from the fact that a lot of time is spent teaching spelling which could be allocated to something else were the spelling to be easier. Many of individuals cannot spell correctly even as adults and many others take years to master spelling; as a result many never succeed completely in this, probably leading to their downfall when looking for jobs. There are many other ways in which spelling can incur extra costs due to its difficulty, such as government having to fund books on how to improve spelling or again, as mentioned, unemployment costs due to the fact that many employers refuse an applicant without giving them any other chance, quite often purely based on poor spelling on their CV. Quite often there is an extra cost for the extra time taken to ensure that documents produced contain correct spelling.

Therefore, some regard the current English spelling system as something that could incur additional and unnecessary costs and obstruct learning, and hence increase illiteracy as well as impeding the social development of individuals who, as a result, are not able to fulfil their economic potential. It is the purpose of this paper to confirm or confute this hypothesis, formed on the basis of observation of the difficulties that English spelling can cause and to estimate the extent of the contribution of the difficult current English spelling system to illiteracy and thus the constraint that it puts on the economy of the UK.

This can be done in many different ways; the particular aim of this paper, however, is an estimation, based on the primary research carried out in primary schools, of how much time and money is spent solely on teaching spelling and how much of this could be saved were the obstacle of a difficult spelling system to be eliminated and replaced by a simpler version. This paper, however, will primarily focus on the financial side of this issue – the economic cost of the current English spelling system, with the accompanying objective an attempt at evaluating the intangible benefits of literacy in terms of externalities as well as costs. Therefore, the paper should ultimately resemble a very basic and simple version of cost-benefit analysis.

For the purpose of clarity, the paper is divided into several chapters. The first chapter contains the review of literature which will outline the conceptual framework of the paper, the economy of social policy and issues of educational funding in general. This will be followed by chapter two: methodology, where the methods of research will be noted, described and evaluated. The following chapter (chapter three) will contain results of the research carried out as well as an analysis of this, and the final part will be the conclusion.

1. Economy of social policy – Education

In today's world of fast development and advanced technology, education is extremely important both for individuals' welfare and for the economy of the country. This is being continuously emphasized since for a society to advance it must be educated, which in turn is reinforced by the actions of government in creating laws to make sure that everybody receives equal opportunities for education (as far as possible) and that they remain in education until they reach a particular age. This ensures that people gain at least the basic skills they need in order to survive in our world today as well as making a difference to them for the rest of their lives, since gaining basic skills of (for example) reading and writing will enable them to enhance their further education through more reading. From this it is possible to see that education and basic skills play a crucial role in a person's life as well as having external benefits for the whole of society, since it is widely recognised that an educated nation has a superior economic performance. Therefore, in the following sections the economy of social policy will be looked at in regard to provision of education by both the free market and government. What will also be looked at is the market failure and why there is a need for government to intervene in education. This will be done with an emphasis on basic skills such as literacy, along with insights into what is the current state of basic skills provision in the UK, which will be further narrowed down to causes of illiteracy with a particular focus on the complexity of the current English spelling system as one of the possible causes of illiteracy: these were the areas of research carried out for purposes of this paper. It is also extremely important to note that due to the pioneering nature of this project, and hence the fact that research such as this has not been carried out so far, there is not a great amount of information to be offered from previous research on the subject of spelling.

1.1 Private benefits

Education can be regarded as the acquisition of new skills and new knowledge (Whynes, 1992). Therefore, for example, if people read a book, they are thereby educating themselves. If they gain pleasure from reading the book and hence pleasure from acquiring knowledge (Whynes, 1992) they are receiving what is also called a “consumption benefit” of education. Furthermore, they might use the knowledge gained from that book to pass an examination and therefore the education itself can also have an investment benefit for them. Within these investment benefits there are two ways in which an individual might benefit from a good education. The first one is the fact that an individual can receive a better job offer since their educational achievements enable them to compete preferentially in the labour market with individuals who perhaps do not have such a high degree of education. This can also be called “screening”, and can be used in choosing candidates for universities, attending which will in turn generate yet more job offers (Whynes, 1992). The second way of benefiting from the investment of time, effort and money in education is the fact that a more educated and skilled worker will contribute more greatly to productivity than an unskilled one, and hence possesses a higher marginal product (the extra output produced by one more unit of input, the extra skills in this case). Furthermore, it is often the case that firms pay wages in proportion to the worker’s marginal productivity which will consequently generate more income for the worker with better education. From this we can then see just how crucial a role education can hold for an individual and that the first step on the ladder could provide access to higher stages and eventually lead to a new way of life.

1.2 Social benefits - externalities

However, goods such as education will not only produce benefits (as we saw in the previous paragraph) which will accrue directly to the student, but they

will be passed on to others within society, affecting the level of welfare enjoyed by each member of that society (Le Grand et al, 1992). Therefore, from the economist's point of view, resources allocated to education (as to almost all the other areas of social economy) will also generate external effects and therefore can be regarded as an investment in the same way as (for example) building a factory (Wales, J. 1990); as such it is adding value to the future productive capacity of the country since a well-educated nation has a tendency to become a more productive workforce. This is confirmed by research which has shown that the level of both general and vocational education has an effect on productivity, and can also be seen from other European countries whose education systems are more efficient bringing with it a consistently more rapid increase in productivity compared to the UK (Wales, 1990). To put this in simple words: the beneficiaries of education are not only the individuals but also third parties (which in this case are the other members of the society and society itself) through the external effect of educating people; in this case showing itself in, for example, provision of more doctors, engineers, teachers and many other skilled professionals who in turn help the country to become self-sufficient (Wales, 1990). These effects are called externalities and can be positive or negative. Positive externalities would generate benefits whilst negative externalities would incur costs to a third party.

From the examples mentioned above it becomes apparent that where education is concerned there is a range of positive external effects resulting from education. These can be divided into two categories – the employment benefits and benefits to society in general (Le Grand, 1992). Employment benefits occur as modern production techniques demand high levels of cooperation between co-workers. Educated people might increase not only their own productivity but that of their co-workers through contact with them. This could happen through more efficient management methods due to their education which might allow their colleagues with a lower level of education

to use their own time more effectively. Furthermore, education might increase the ability of a person to respond to changes that might occur through rapid technological development, thereby making them more adaptable and flexible. These abilities might in turn prevent breakdowns in production and thus improve the whole process (Le Grand, 1992).

Secondly, there are the benefits to society as a whole. These benefits occur because there are certain educational aspects that can be realised fully only if they are shared by other people at the same time (Le Grand, 1992). Education for example is vital for communication and without it little could be done for the economy (Wales, 1990) since our communication would be severely limited. Thinking about how many people rely on the fact that we learn to speak and read it becomes obvious that communication is in our mutual interests and we would all benefit from being literate, which can only happen through education. On a more general level, better educated people have a tendency to be more flexible and hence adapt more easily to the stresses of social change, thus imposing less of a financial strain on society. Furthermore socialisation, which can be achieved by education contributing towards common standards of citizenship, will also produce that social cohesion desired by society (Le Grand, 1992). There are many more particular benefits that can be mentioned which are also desirable for society, such as: better educated people being more productive and hence creating a more efficient, powerful and affluent economy, better educated parents (being able to provide more income gains for their children) are in turn also likely to become members of society contributing to the economy effectively. Lack of education is quite often associated with criminality too (there is a correlation between high levels of illiteracy and criminality) and therefore the benefit of education can quite often be approximated in terms of “crime-cost avoidance” (Le Grand, 1992) which would directly point out the costs that were saved by the police, for example because people are more law-abiding. Another

example could be the cost savings through people being literate and thus able to fill their own income tax returns.

Having these examples of illiteracy is particularly important since the issue of illiteracy and the costs which this is imposing on the economy of the country will be dealt with later on in this paper. However, before this, an issue relating to the financing of education will be elaborated along with an attempted explanation of why it should be financed the way it is.

1.3 Financing education

When looking at the funding of education, a few issues need to be raised. Firstly, education belongs in the category of public benefit. These are the benefits that can be characterised as having certain features. One of them is non-excludability which occurs when a product is freely available to everyone, such as street lamps or the police. Non-rivalry is another characteristic of a public benefit, and comes into play when one consumer cannot prevent another from doing so, too (Glennester, 2003). Public benefit can also be described as non-diminishable, which means that they cannot be used up, as well as being indivisible, which suggests that we cannot use only a part of it, for example one soldier would not be of much use to the public for which the public benefits are intended (Wales, 1990).

Therefore, bearing in mind issues related to education being a merit or public benefit as well as producing externalities, an answer to the question of financing education emerges fairly quickly as it is obvious that wherever some external cost and benefits exist, or there are products which are non-excludable or non-rival, consumers cannot rely on market forces to allocate resources efficiently and therefore there is a strong need for government to intervene in the funding. This is because education in particular, as one of the most extreme examples of a “merit good” (Wales, 1990) (i.e. socially

desirable and not based on customer preferences; www.wikipedia.org)) can cause the market to fail whilst still delivering the value desired. This happens simply because the producers in the market would like to incur the lowest costs possible as well as sell their products at the highest level possible and so set the output to maximise the profits. This could lead to several different issues. Firstly, monopoly can occur, which can lead to misallocation of resources, and is the most extreme imperfection of the market (Wales, 1990). This would mean that, for example in rural areas, there might be only one school to which parents can send their children. This leads in effect to a local monopoly resulting in customers losing out because they buy products for which they pay more than they should. Furthermore, society as a whole is losing since the marginal social costs are not equal to the marginal social benefits produced by education in this way., Another way in which the market can fail to provide the desired value to customers could involve imperfect information: in order to operate in the market, customers need to be aware of all the services to make the right choices. However the children, as consumers of education, are not perfectly informed customers (Glennester, 2003). Parents might be acting on their children's behalf which partly solves the problem; however, this might not always prove an efficient solution since parents do not always have the capacity to act in their children's best interests for various reasons, for example not having enough information to make a wise decision about their child's education. Moreover, benefits of education may not always be obvious to those parents who did not experience them themselves (this often applies to higher education). This may result in under-consumption of education (Glennester, 1997) which in turn would not allow children to achieve their full potential in the future. Worth noting too is the fact that under-consumption of education could also become an issue in regard to already-mentioned externalities. This means that if the individuals were left to their own choices, they might not purchase enough education for the social good and hence could be a drain on social security resources. What can also occur as a market failure is a socially inequitable

distribution of education. If education was sold on the market, access to it would be based on income (Le Grand, 1992). Typically, it is a common case that there exist inequalities in income, and therefore allocation of education will also be unequal due to insufficient funds to afford its full expense.

Considering the issues mentioned above there is a strong case for government intervention in funding education on grounds of equity and efficiency. However, once this has been established some more questions emerge in regard to the funding of education: Is education funded appropriately? For the purposes of this paper a specific area of education will be targeted with a question about funding, i.e. literacy. As mentioned in one of the examples of externalities, being literate is an initial and extremely important part of education since it is through reading that we acquire further knowledge which we can put to use to realise our full potential. Government intervention in education introduced regulation and subsidy as well as compulsory education, and spends on average five percent of the gross domestic product on education (Glennester, 2003). However it can only be an investment if it fulfils its targets, and so far (despite government efforts to provide compulsory education) a considerable number of people remain illiterate, imposing financial stress on the economy through being less employable and therefore less able to contribute to taxes as well as national insurance.

A short look at the statistics dealing with the issue of illiteracy in the UK shows that eight million people (20 percent of the population) cannot cope with the demands of modern life due to poor literacy skills - one in five adults in Britain have very poor literacy standards. 3,800 people aged between 16 and 65, who had been educated in Britain, were tested, and the results indicated that about 8.4 million Britons of working age (22 percent) are incapable of comparing and contrasting two pieces of information and almost the same number are unable to fill in a form correctly. (Woosey, 2005).

The implications of this are that poor literacy is costing the state almost £2 billion a year through lost earnings, along with additional public expenses on education, health, welfare and the criminal justice system (Anonymous 1, 2006). A detailed analysis of the public cost of illiteracy by the KPMG Foundation Charitable Trust concludes that a child who has left primary school with poor reading and writing skills will incur a cost to the State of an additional £45,000 to £53,000 by the age of 37 (Desira, 2006). These costs are mainly incurred through the fact that people who have problems with writing or reading are more likely to have the employment markets closed to them (quite often due to people not even being able to fill in an application for a job) and therefore claim benefits or take up low paid jobs which as emphasized before will increase the strain on social security sources, thus impoverishing the economy. An example of the exact costs that make up these figures can be seen in research carried out by KPMG amongst primary school leavers in Birmingham, which highlights several different issues: employment related costs (as mentioned above) were £32.7m, crime-related costs incurred when an individual ends up going through the justice system were £12.6m, along with the costs of teenage pregnancy and substance abuse which came to £7.43m, and health costs through increased health risks, such as obesity and depression, due to lack of education, which amount to £1.33m (Anonymous 2, 2006).

1.4 What can be done?

An answer to this would be an extensive advertising campaign by the government about the new centres and supporting a series of programmes on spelling on prime-time BBC television. (Gow, 1988). In 2001 the government was to spend £1.5bn over three years to improve the level of basic skills, i.e. literacy and numeracy (Kamal, 2001). In 2005 this was increased when a report was issued that the government would provide

£2.3m for 64 adult education projects in the UK. Grants ranging from £3,000 to £147,000 would go to a wide range of schemes - from community radio stations to the development of materials. Furthermore, the government has also launched another reading recovery scheme for illiteracy which claims that spending £2,400 on each pupil with poor reading at the age of six could allegedly save taxpayers more than £50,000 for the rest of his/her lifetime, and on a national level could save up to £1.6bn for the government (Meikle, 2006).

From the last paragraph it is obvious that education, like other services provided by government, could soak up all the money available (if not more) and therefore the government needs to evaluate whether consumers are receiving the value they are supposed to, and decisions need to be made about the type of provision. Therefore maybe trying to tackle the fight against illiteracy by inputting more and more money into current pedagogies could be reviewed too and a different way of tackling this issue could be undertaken, such as simplifying certain aspects of education, e.g. spelling. The fact that the reading and writing of English does impose an enormous strain on a learner by having an over-difficult spelling system might contribute towards the illiteracy by not having any rules for weaker learners to grasp and thus advance their education through reading. Naturally, many spelling errors would be caused by random cognitive and physical slips, which would not be easy to avoid by changes in the spelling. Besides these occasional errors, however, several types of recurring errors linked to ambiguities in its system (Reyaert, M, Van den Bosch) can be noticed as having a direct effect on the ability to learn to read and write. The costs of this have not been documented in the UK yet and therefore this research paper, having identified this fact, will attempt to research and analyse the possible costs that spelling could incur in the economy by being too difficult and in need of a reform. It might also be worth mentioning that in some countries gaining basic literacy skills is just matter of learning the alphabet and a few simple rules, and consequently

being able to read and write without any additional effort such as extra classes, books being printed in support of mastering spelling etc. Furthermore, a similar situation with spelling difficulties was noted in Germany, where the spelling system was simplified in order to ensure that people would need to put less effort into learning to read and write, therefore increasing levels of literacy.

2. Methodology

This chapter's objective is to clarify, outline and evaluate the research methods used for the purposes of this paper. In order to remain clear about the methods, what Saunders (2003) termed "the research process onion" was taken as a guide when determining what research philosophy, approaches and strategies will be used as well as establishing the time horizons and eventually the data collection methods. This will be dealt with in the first part whereas the second part of "methodology" will deal with the actual data collection, justifying the method chosen, evaluating the advantages and disadvantages of using the chosen method as well as the possible implications of this.

2. 1 Research Philosophy

Firstly therefore, a journey through the process "research onion" will be undertaken and particular aspects of this research paper will be determined. What will be looked at firstly are the types of research philosophy. Saunders (Saunders et al., 2003) identified three types of research philosophy, which are positivism, interpretivism and realism.

Saunders (2003) sees the positivist philosophy as "Working with an observable social reality [whereby] the end product of such research can be law-like generalizations similar to those produced by the physical and natural scientist" (Saunders et al, 2003, p. 83). In this approach, the researcher is expected to take on the role of a highly objective analyst along with expectations of the use of a highly structured methodology as well as usage of a quantitative approach to statistical analysis.

However, Saunders (2003) also argued that there is too much complexity in a business environment for a series of law-like generalisations and therefore an interpretivist philosophy was highlighted as more suitable for certain researches. This philosophy challenges the issue of generalisations since quite often the business situations can be unique, and there is no possibility to generalise as they are an expression of a particular set of circumstances and as such not always applicable to different situations. Therefore, as Remenyi suggests, this philosophy can be regarded as collecting “The details of the situations to understand the reality or perhaps a reality working behind them.” (Remenyi et al, 1998)

The last approach is realism, which according to Saunders “is based on the belief that a reality exists that is independent of human thoughts and beliefs” (Saunders et al, 2003, p. 84). This suggests that there might be social forces and processes influencing individuals, and particularly without them being aware of this and hence having an influence on their interpretation of their behaviour. Therefore this philosophy is quite often used when studying human subjects as it shows understanding for people’s perceptions of socially constructed interpretations and meanings.

Having considered all the philosophies, for the purposes of this paper a positivist philosophy has been selected as the most appropriate since there is a need to remain objective and use a highly structured methodology in order to replicate the research on a larger scale at a later stage. A certain level of generalisation will also be required.

2.2 Research approach

Having established the philosophy, the next stage follows – the choice of research approach. Saunders recognised two different types of research approaches: inductive and deductive.

The main thought behind the inductive approach rests with the fact that this would involve building a theory based on the data collected, rather than the other way round as it is in deductive research. Therefore, when conducting research in an inductive way, the theory would follow rather than the other way round. Furthermore, induction emphasises the insight into how individuals interpret their social world and the meaning they attach to events, and therefore an inductive approach will be particularly concerned with the context in which certain events are taking place (Saunders et al., 2003) and might not be as rigid in methodology as the deductive approach, and may therefore discover different cause-effect links. This approach is often likely to have qualitative results and is usually applied on small samples.

The second type of research approach is deduction. The essence of this approach is to develop a theory which will then be subjected to testing. This approach would involve a progression through five stages as suggested by Robson (1993). These in essence comprise: deducing a hypothesis, expressing the hypothesis in operational terms, suggesting a relationship between two specific variables, followed by testing this operational hypothesis and subsequent examination of the outcome and if necessary modifying the hypothesis based on the outcomes. There are a few characteristic features that this research would have. One of them is *seeking to explain the causal relationships between the variables,* and, based on this, *developing the hypothesis*. To confirm or confute this hypothesis, it is most likely that *quantitative data* would be used along with a *highly structured methodology* and setting *controls to allow testing the hypothesis*. This is to ensure avoidance of getting wrong answers from respondents. Further characteristics of this type of research suggest that the researcher remains *objective* so it is important for example that the researcher phrases questions without any possible traces of subjectivity, while other characteristics of deduction are the *reduction principle* and *generalisation*. The former proposes that if problems are reduced to their simplest elements, they are better understood. The latter

indicates that a larger sample should be used since research at one primary school (as it is in the case of this paper) might not be able to be applied to a different primary school.

Having had a look at these approaches, again, the most appropriate option has been selected, which in this case is the deductive research to be undertaken. This is due to several reasons: through observation a hypothesis that spelling being difficult can incur additional costs through illiteracy has emerged, and this needs to be either confirmed or confuted. This is a particular objective of the research and therefore no additional causal links between other variables are needed. Also, a certain level of generalisation will be needed, which again directs us to the deductive research.

2.3 Research strategy

The next step involves choosing the right research strategy. For purposes of this research a survey will be used. Survey is one of the most common and popular business research strategies, since it is fairly easy to decode. This type of research is also very economic and easily comparable. This strategy should help the researcher to have more control over the process as well as providing him/her independency. However, it is also very time-consuming; considerable amounts of time are usually spent on designing questionnaires, piloting and analysing them. Furthermore, a survey may not always yield as much information as other research strategies. Once this is established, it might be helpful to determine time horizons. Typically, where a survey is concerned, a cross-sectional approach is usually, used which will also dominate this particular paper. As opposed to longitudinal studies, cross-sectional studies are conducted over a short period of time and aim to get a “snapshot” of the situation. This approach has been chosen for this paper (Saunders. 2003).

2.4. Data Collection

2.4.1 Primary data

Saunders et al. (2003) distinguished two ways of how data can be collected. The first type is primary data which are collected through observation. These data are always new and specific and suitable for the purpose of the particular research. Secondly, there are the secondary data which are data that have already been collected for a specific reason but are used again to support a different research with the same or different purposes. For the purposes of this paper only primary data will be used since this research is very much of a pioneering nature.

2.4.2 Questionnaire

Having gone through the research determining process, it has been decided that a questionnaire will be the main source of the primary data for this paper. This is because, as mentioned before, it is highly economic and provides independence for the researcher. This method was also chosen because the research being conducted is an explanatory and descriptive one for which standardised questions are suitable, and also due to the fact that questionnaires enable the researcher to examine and explain relationships between variables (Saunders, 2003).

First of all, however, it might be useful to define what a questionnaire is. According to deVaus “questionnaire” is a “general term to include all the techniques of data collection in which each person is asked to respond to the same set of questions in a predetermined order” (2002).

2.4.2.1 Type of questionnaire

Fundamentally, there are two different types of questionnaire namely self-administered and interviewer-administered, of which the self-administered

was selected. This type of questionnaire is usually completed by the respondents on their own without the presence of the researcher. This type was chosen because most of the research questions required to examine the hypothesis could be put in a standardised form and hopefully would be understood by all the respondents in the same way. Furthermore, this type of questionnaire is usually delivered and returned by internet or post. For this particular paper, it has been decided to deliver the questionnaires by hand and pick them up at an agreed time and date. This decision was based on factors influencing the research, such as the characteristics of respondents as well as how to reach them. That is mainly due to the fact that the research was to take place at primary schools, which meant reaching at least twenty potential respondents by attending one school, as well as the fact that the researcher has a preference for introducing the questionnaires personally. Furthermore, an agreement with head teachers (who were approached either via email or directly and who were also briefed on the purpose of the questionnaire) was made to give out the questionnaires at the school meeting held every morning, at which all the teachers were present. However, this was not always possible and therefore the researcher was present at some of these meetings herself to give out the questionnaires. In either case giving out questionnaires at the morning briefings proved more efficient than approaching each separate teacher, which would be restricted by needing to know who holds what position at school.

2.4.2.2 Designing the questionnaires

The questions in the questionnaire usually investigate one or all three types of data variable: opinion, behaviour and attribute of the respondents (Dillman, 2000). Opinion questions aim at finding out what the respondents think or believe. The behaviour questions will clarify what the respondent does, whilst the attribute record will present what the respondent is. Based on this, “attribute questions” in this particular questionnaire will include asking for data such as occupation (type of position held at primary school in this case) and

income. The questionnaire will furthermore include “behaviour questions” trying to find out what the teachers do and how much time they spend on particular activities in school. Lastly, the “opinion question” in this questionnaire will probe personal opinions of respondents, asking them to give their opinion on whether their teaching time could be allocated more fruitfully on different subjects were the spelling to be easier.

With regard to question design, questions for this paper will be designed by the researcher rather than adopting or adapting questions from different questionnaires already put into practice. This is due to the specific nature of this research as well as the fact that adapting/adopting questions is usually used to compare the results with secondary data. Furthermore, this will eliminate the need to ask permission to adapt/adopt the questions from other questionnaires. As far as the type of question is concerned, this thesis will use predominantly close-ended questions or multiple-choice questions (deVaus, 2002) which provide several alternative answers from which the respondent must choose one. These can be further divided into different categories as identified by Saunders: list, category, ranking, scale, quantity and grid questions. Out of these six categories, a few were chosen to make up the questionnaire: the category (predominantly), in which the respondent is offered a list of options and can choose one only, the list questions in which the respondent is offered a list of options any of which can be chosen, rating questions where respondents are asked to rate something through a word device (e.g. strongly agree, disagree etc.), and finally the quantity questions where a response is a number (Saunders, 2003).

Another issue involved when creating questionnaires is the length, therefore it has been attempted to make the questionnaire as concise as possible since teachers (the respondents in this case) are busy people. Furthermore, questions must not make the respondent uneasy, so the questions about income have been worded in terms of pay scales and responsibilities rather

than asking directly how much money respondents earn, since some people might feel uncomfortable giving out this kind of information.

Another important thing when administering questionnaires is the introduction. A questionnaire should have a covering letter explaining the details of the questionnaire to the respondent. In this particular case the introduction included the title of the research, title of the course for which the project is carried out, the name of the student-researcher and the name of her supervisor, what the aims of the questionnaire are, brief instructions, how long the questionnaire should take as well as the benefits of the research, and above all a statement assuring respondents that all information given will be treated in strictest confidence. Lastly, the covering letter also included a telephone number in case of further enquiries from respondents (Saunders, 2003).

2.4.2.3 Advantages and disadvantages

The selected method, a self-administered questionnaire, can be a very efficient way of obtaining relatively large amounts of information. The advantages could include the cost - they are less expensive than interviews; they do not require a large staff of skilled interviewers; and they can be administered in large numbers all at one place and time. Self-administered questionnaires also ensure anonymity and privacy which in turn might encourage honest responses. There is also a lack of interviewer bias and less pressure on respondents. Questionnaires allow fast administration and analysis and are suitable for computer-based research methods. However, just as this type of data collection has advantages it also has drawbacks, which could include the fact that respondents may stop participating half-way through the survey; they cannot ask for clarification since there is no interviewer available for explanation and therefore certain questions might remain unanswered if the respondents have not understood them. Another problem could occur if the respondents returning the survey represented

extremes of the population, which would generate skewed responses. The biggest problem perhaps with this method is that the questionnaires might not generate a very high response since it is entirely up to the respondent whether to complete the questionnaire.

2.4.2.4 Implications

Whatever the methodology chosen, it will have an impact on the results. In particular using this type of research method can influence the research for example by causing bias – if respondents do not understand a question, or have insufficient knowledge to answer it, they might just guess the answer which could reduce the reliability of the data gathered. The questions need to be as simple and precise as possible. Bias can occur when several respondents fill in the questionnaire at the same time in the same place (which is likely to be a staff room in the primary school in the lunch break in this case, although respondents might take the questionnaire home with them), discussing the questions with each other, and therefore their response might be contaminated (Saunders, 2003).The questionnaires might be given to the wrong person (questionnaires were intended mainly for literacy teachers), such as special educational needs teachers who might have a wholly different experience of teaching literacy. Therefore it is crucial to specify who the questionnaire is aimed at. Lastly, the questionnaires might not generate sufficient response for the research if not all the intended respondents return them.

2.4.2.5 Possible problems

Perhaps the biggest problem in this particular case was the timing. The research had to be carried out at the end of the academic year which might reduce the anticipated 100 percent returns of questionnaires as this is one of the busiest times of the year for teachers.

3. Data Analysis

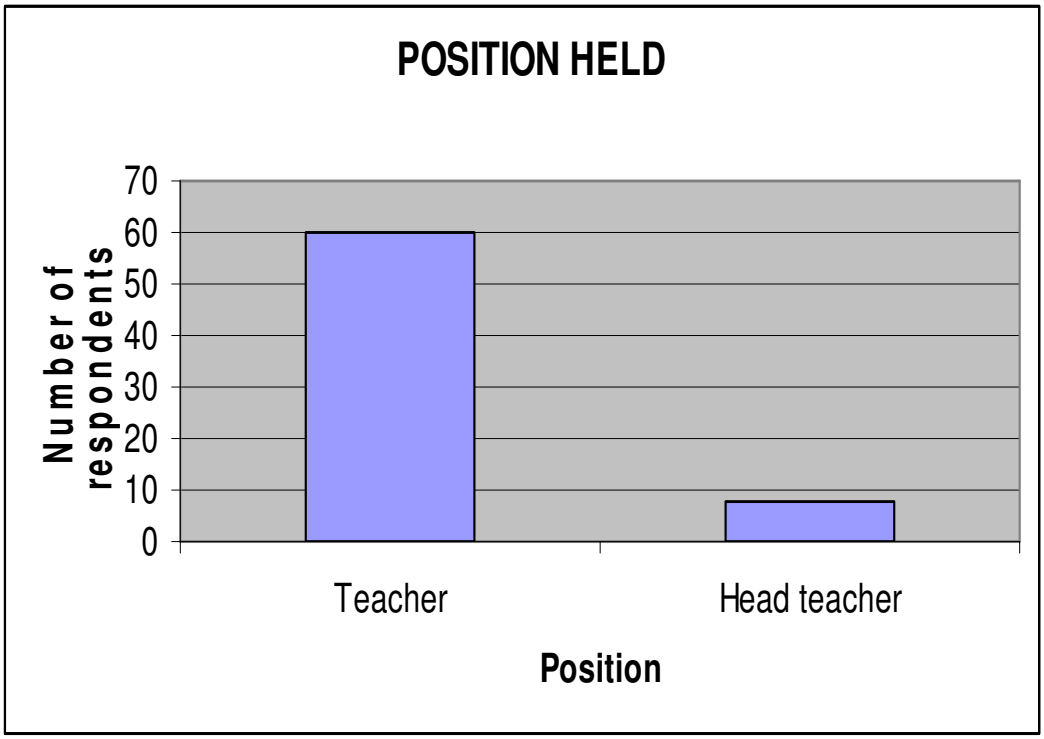
The purpose of the primary research is the evaluation of each research question and hypothesis. This chapter will therefore be divided into two parts, with the first one revealing the data yielded by the questionnaires and evaluating the research questions, and the second part offering an analysis of these data in order to confirm or confute the research hypothesis – “Is difficult spelling causing additional costs for the economy?”

But firstly some general data regarding the return of questionnaires. It is necessary to point out that the research was carried out on a small scale - out of 170 questionnaires given out to 14 schools, only eight schools returned the questionnaires.

3.1 Evaluation of research questions

Further details can be summarized from Question One which asked respondents to state what position they hold at the school. From the answers it is possible to see that 68 questionnaires were returned having been filled out by the intended audience: teachers. A further 12 were returned filled out by teaching assistants, which was not intended but which could be of use in future research. The 68 questionnaires filled out by teachers can be further divided into categories – teachers and head teachers. As illustrated in graph 1, 60 questionnaires were filled in by the teachers and the remaining eight questionnaires were filled in by head teachers.

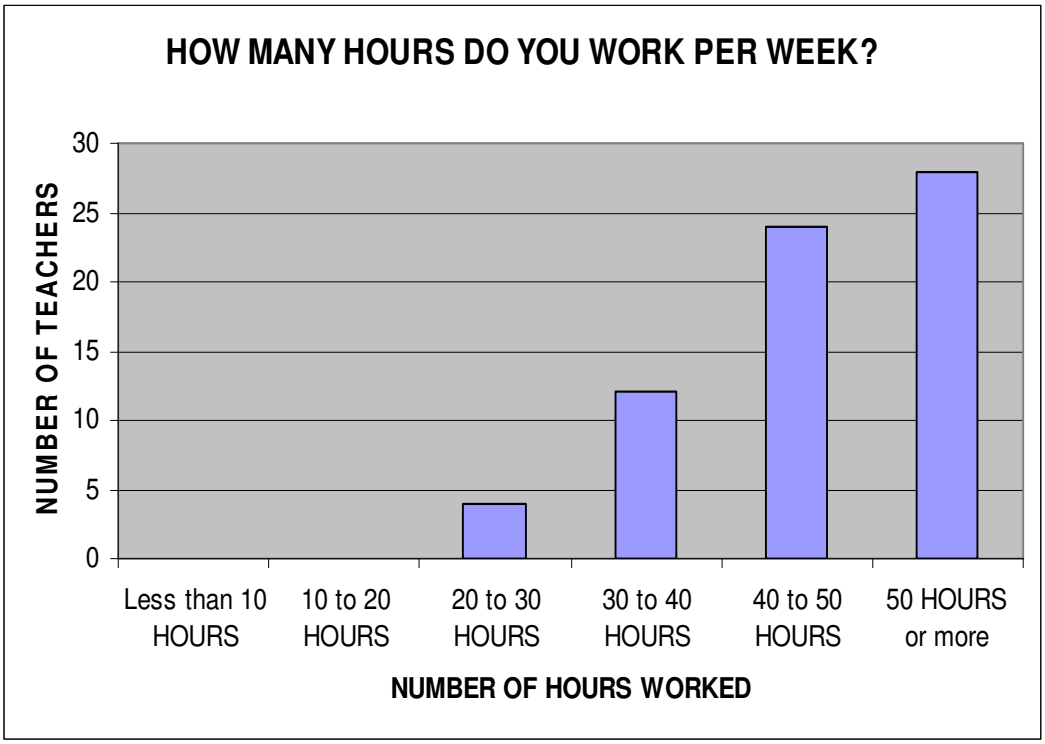
Graph 1.



Source: made by author

The second question was aiming at finding out how many hours a week the teachers work on average. Answers are illustrated in the graph 2.

Graph 2.

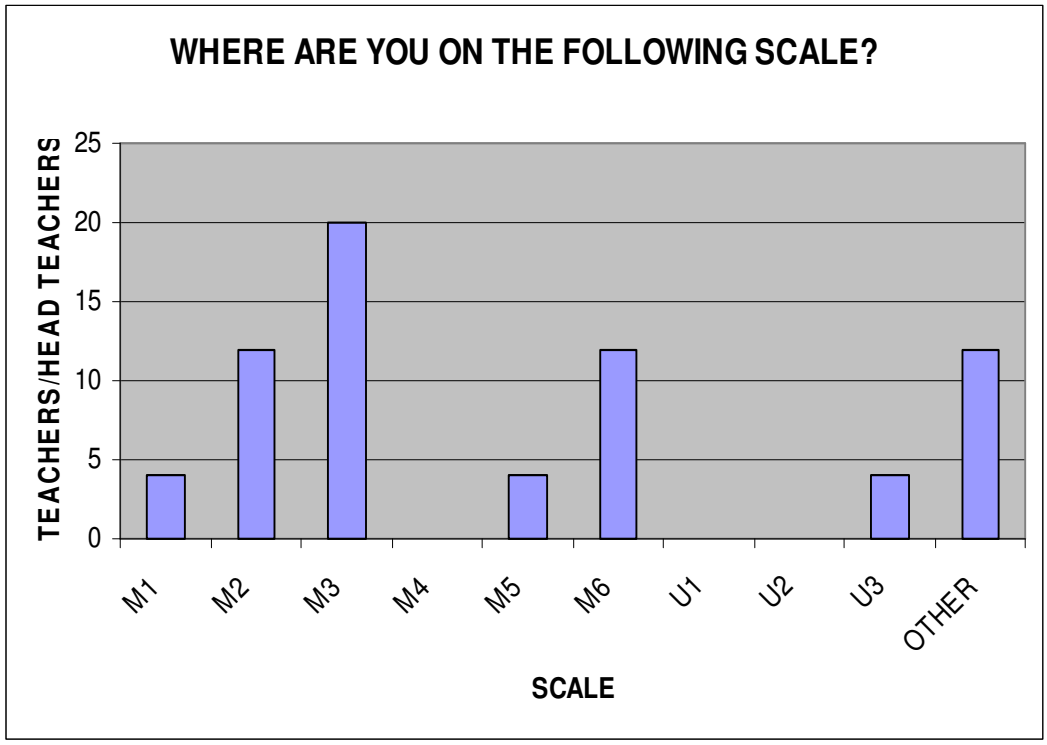


Source: made by author

The majority (43%) worked over 50 hours per week, 34% worked 40 to 50 hours per week, some (16%) worked 30 to 40 hours per week and only a few (6%) worked between 20 and 30 hours per week.

The next question asked teachers about their pay. The teachers had to place themselves on the pay scale provided in the questionnaire. These ranged from the main scale (M1 to M6) through the upper pay scale (U1 to U3), up to the Leadership scale (L1 to L43).

Graph 3.

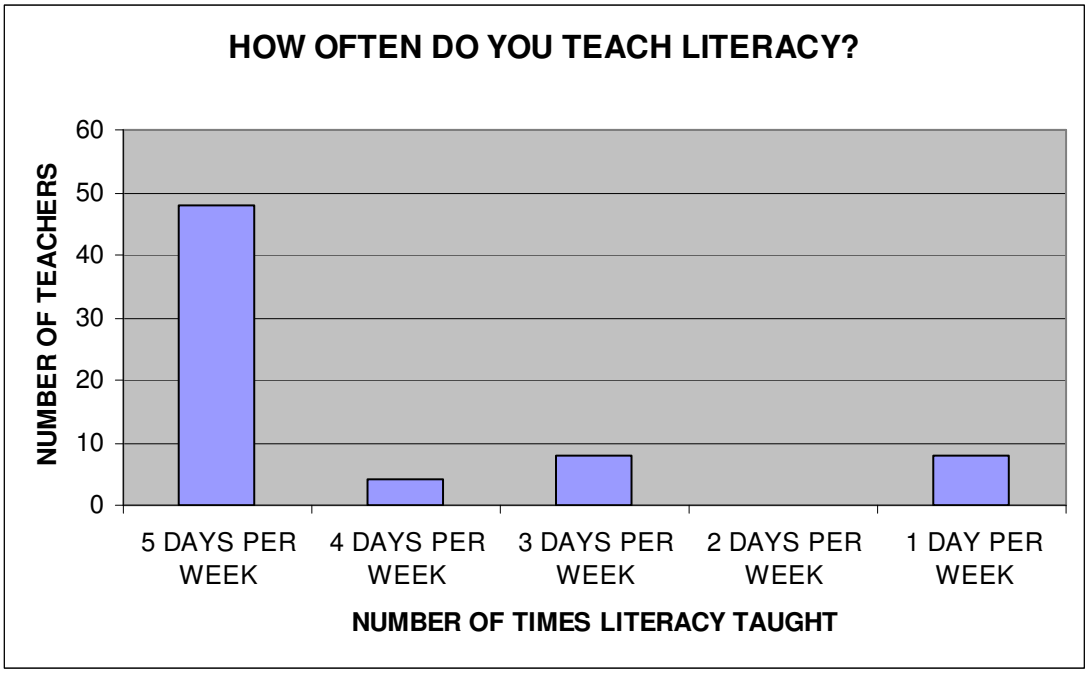


Source: made by author

From the 68 respondents four were receiving an M1 salary, which means they are receiving an annual salary of £19,641. Out of the sample, 17.6% of teachers were receiving a salary based on three different scales – M2, M6 and Leadership. This means that the first of these bands (M2), receives £21,195 per annum, the second (M6) receives £28,707 and the third (accounting for 12% of the sample) receives on average between £46,962 and £64,593.

To be able to calculate how much time and money is spent on spelling, the following questions were also important. The teachers were asked how often they teach literacy each week. The answers are illustrated in graph 4.

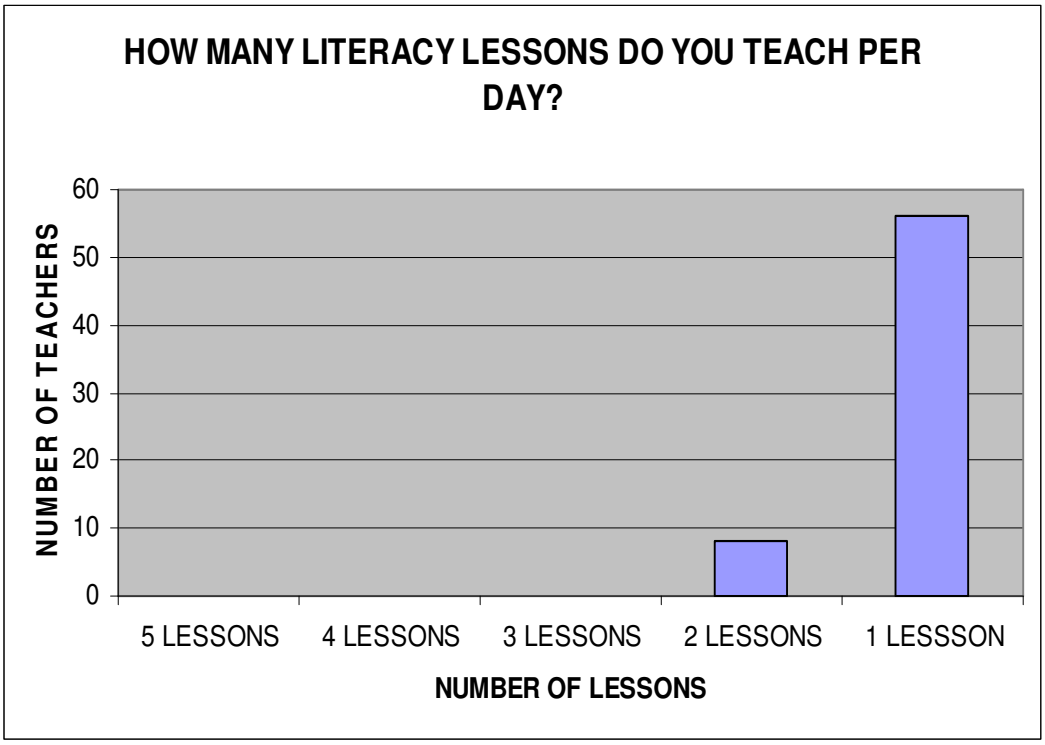
Graph 4.



Source: made by author

From the answers it would seem that teachers usually teach literacy every day. Or at least the majority of 70% do (48 respondents), whilst 6% (4 respondents) teach it four days a week and 12% of respondents (eight respondents) claim to teach literacy either three days or just one day a week. To enable a more thorough analysis, respondents were also questioned how many hours of literacy they teach per day. The answers have been summarized in graph 5.

Graph 5.

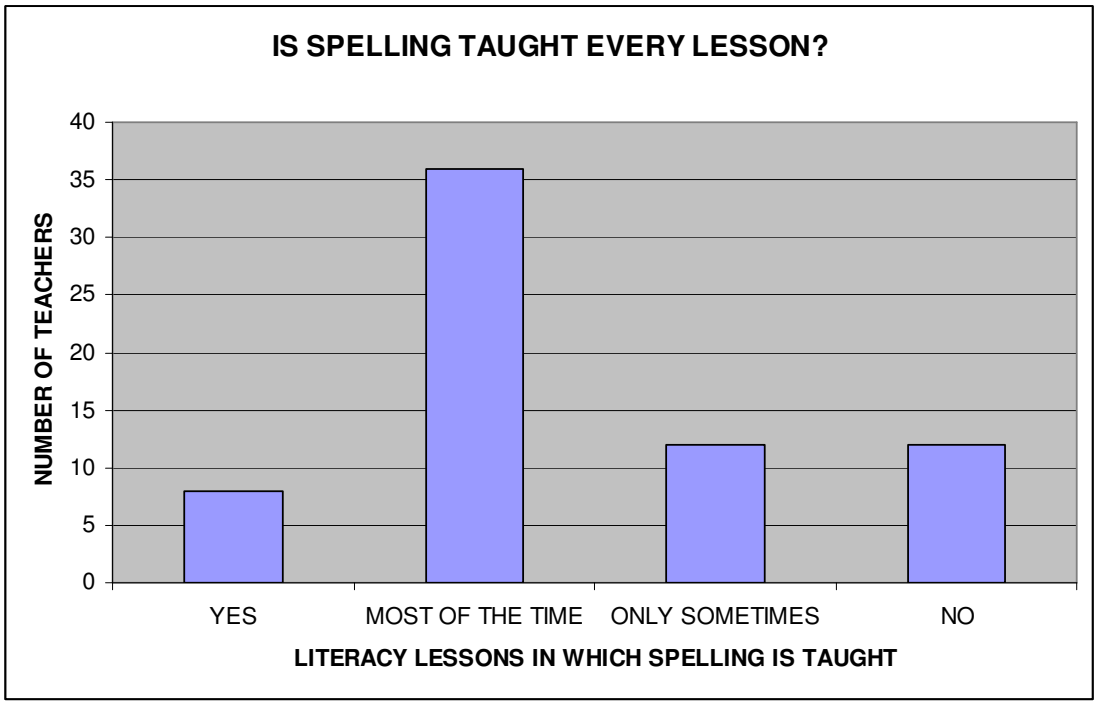


Source: made by author

On average 85% (58 respondents) teach one literacy lesson per day whilst only a minority of 12% (8) teach more than one literacy lesson per day. Two respondents failed to answer the question.

The next question attempted to find out whether spelling is taught in every literacy lesson. Graph 6 illustrates the answers.

Graph 6.

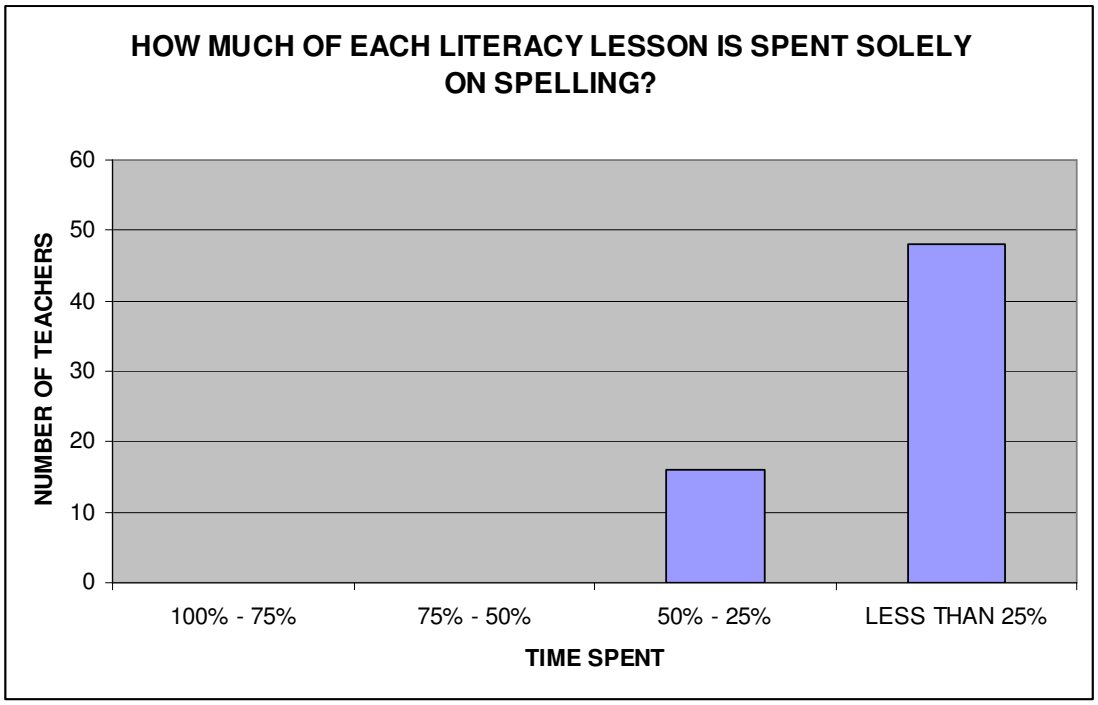


Source: made by author

Eight respondents (12%) said that spelling was taught in every lesson, 36 respondents (53%) thought that spelling was taught most of the time, whilst 24 (35%) thought that spelling was taught only sometimes and not in every literacy lesson.

There was also a question exploring the ratio of time spent solely on spelling within one literacy lesson. Answers were as follows:

Graph 7.



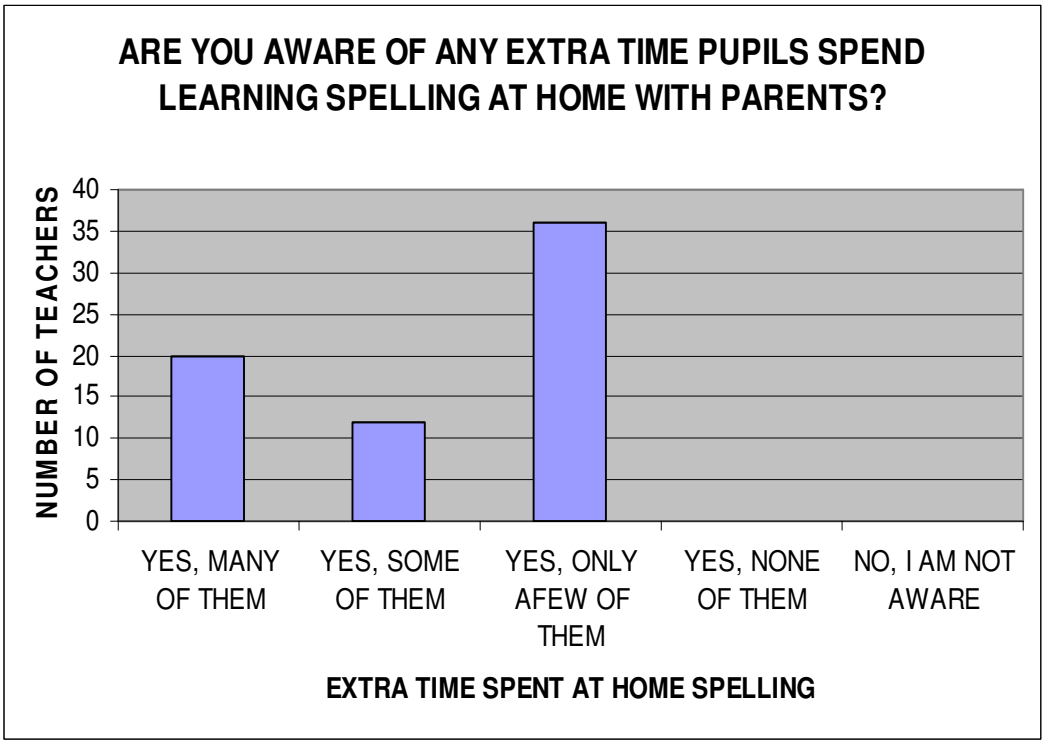
Source: made by author

Most of the respondents (48, i.e. 70%) suggested that less than a quarter of the literacy lesson was spent on spelling. Sixteen respondents claimed that spelling is allocated to between half and a quarter of the literacy lesson. Four respondents failed to answer the question.

So far the questions were specifically focused on finding out facts about how much time (and consequently money) was spent on teaching spelling at present. The next few questions will look at the opinions of teachers as to whether they perceive that there are any additional costs and whether they perceive the funding as sufficient.

Therefore the following question was asked: Are you aware of any extra time that pupils spend learning spelling at home with parents? A summary of the answers is in graph 8.

Graph 8.

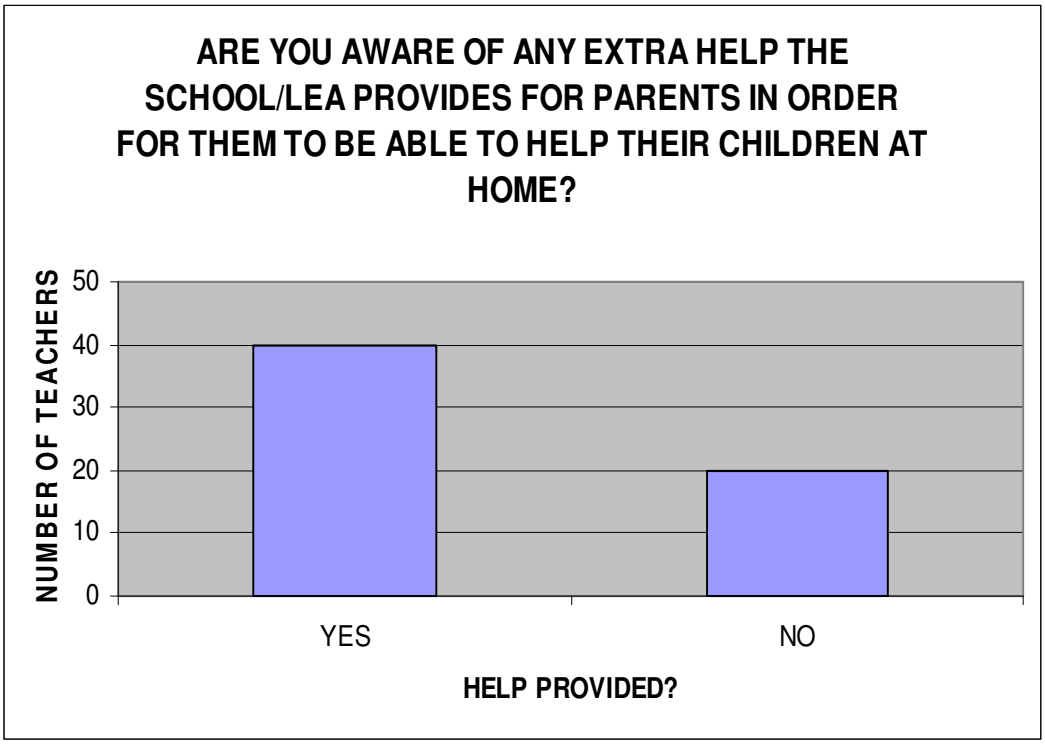


Source: made by author

Twenty teachers (29%) felt that many students needed extra help with spelling in the form of parental help at home. In addition 12 (18%) were convinced that some (as opposed to “many”) of their students required this type of help. However, most teachers (36 i.e. 53%) were convinced that there are only a few pupils who spend extra time at home with parents helping them to learn spelling.

The next question is also related to the parents’ help; however, it focuses even more on the costs as it asked teachers whether they were aware of any extra help provided by the school or Local Educational Authority (LEA) for parents in order for them to be able to help their children. Answers were converted into a chart and shown in graph 9.

Graph 9.



Source: made by author

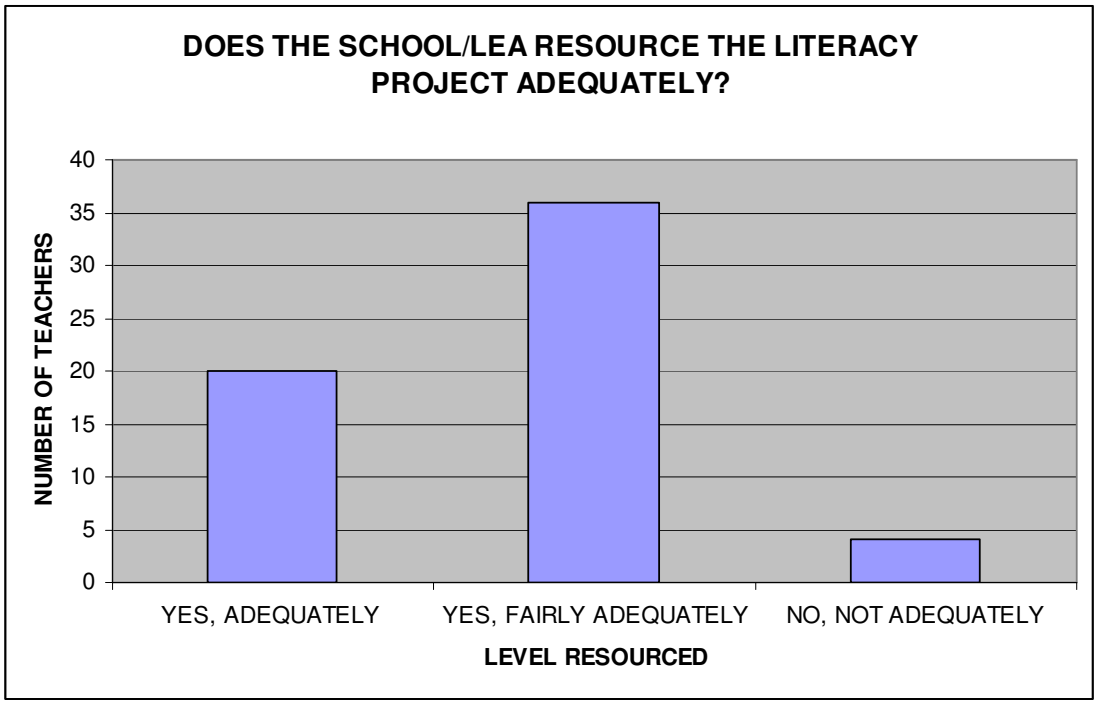
The majority (40 teachers, 59%) answered this question positively. Twenty (29%) were not aware of any help. Eight respondents failed to answer this question, probably due to a lack of knowledge on this subject.

The next open question encouraged teachers to describe some of the extra help that schools/LEA provide to parents. Out of 40 teachers who were aware of the help schools/LEA provide for parents, a total of six specified this. This was mainly noted as teacher-led parent groups / parents sessions / parents evenings / parents workshops and support sessions for parents or as early-years support sessions. There was also mention of additional worksheets, leaflets or spelling books.

However, schools should not only provide help to parents but enhance the teachers' teaching of literacy by ensuring enough funds for it. Therefore, the

next questions asked teachers whether the school / LEA resource the literacy project adequately. Graph 10 illustrates the answers.

Graph 10.

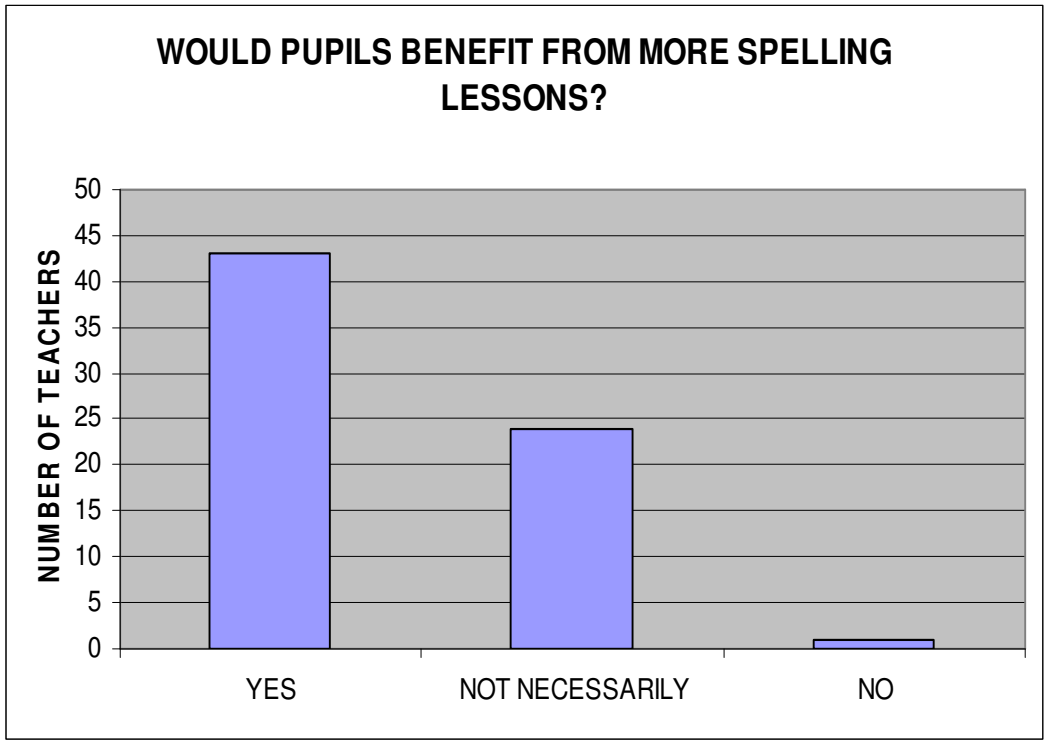


Source: made by author

The majority of respondents (29% and 53%) felt that the literacy project at primary schools was resourced adequately or fairly adequately and only 6% were not satisfied with the way the literacy project was resourced.

This was followed by a question where teachers were asked whether they thought pupils could use some extra lessons to improve spelling. Answers are as follows in graph 11.

Graph 11.

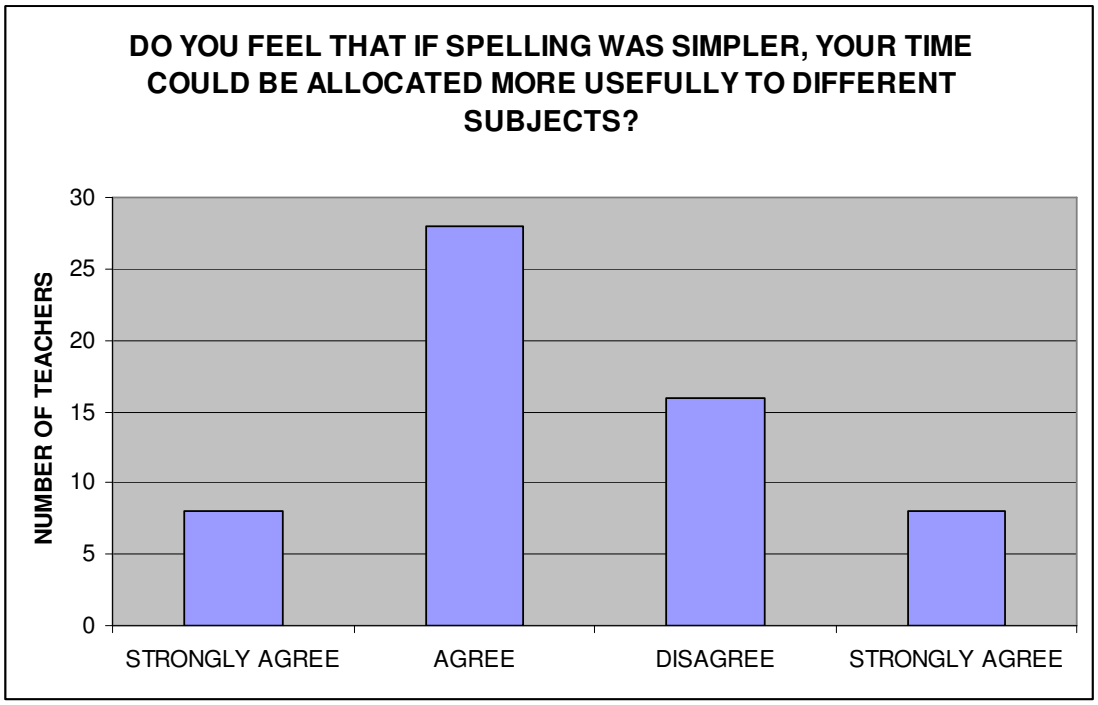


Source: made by author

Teachers were predominantly inclined to the idea that pupils could benefit from extra lessons – 63% agreed that the pupils would benefit. Quite a high number (35%), however, also seem to be convinced that extra spelling lessons would not be useful. 1.5% felt that pupils would not benefit at all from extra lessons.

As a follow-up question teachers were asked whether, if spelling were simpler and the time spent on teaching it were not needed, the time could be allocated more fruitfully somewhere else. Graph 12 presents the answers.

Graph 12.

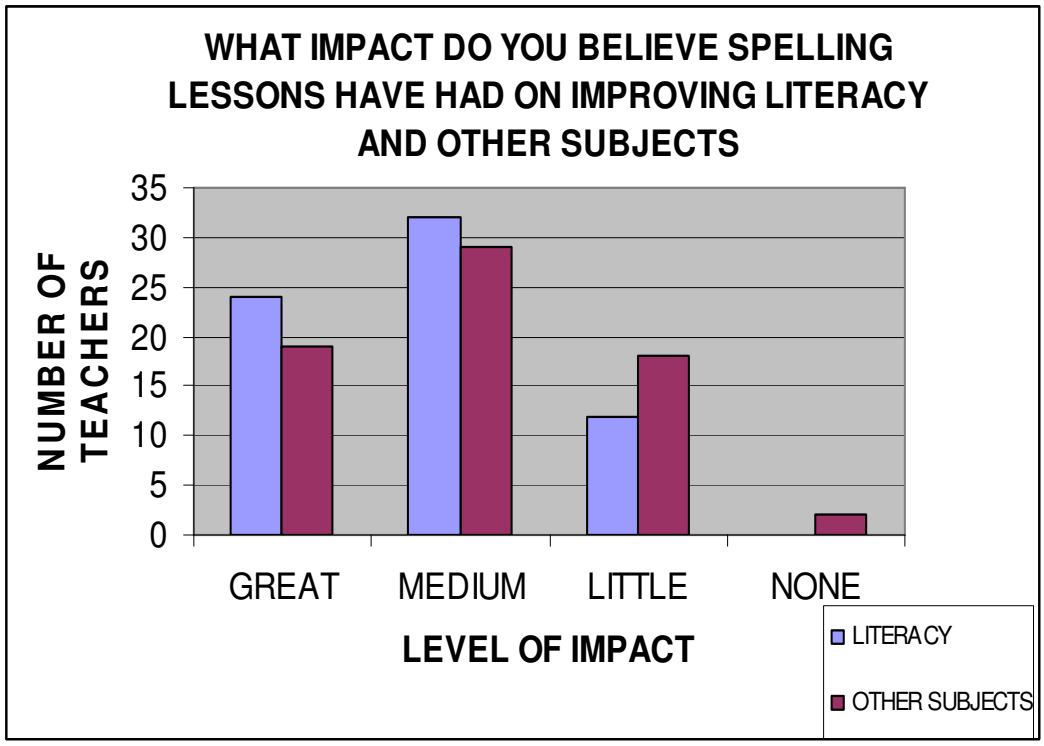


Source: made by author

The responses were varied – 36 respondents in total (53%) agreed or strongly agreed that the time spent on spelling could be allocated more efficiently elsewhere, whilst not many fewer teachers (35%) disagreed or strongly disagreed with the notion that time spent on spelling would be better used on different subjects. When encouraged in the next open question to list subjects that could be allocated extra time saved as a result of easier spelling, mathematics scored the highest number of nominations, followed by science, ICT, art and design, modern languages and physical education, citizenship and religious education.

The final set of questions focused on finding out whether investing in spelling has any return. Asking teachers whether spelling lessons have had an impact on literacy in particular and other subjects in general has yielded results documented in the following graph.

Graph 13.

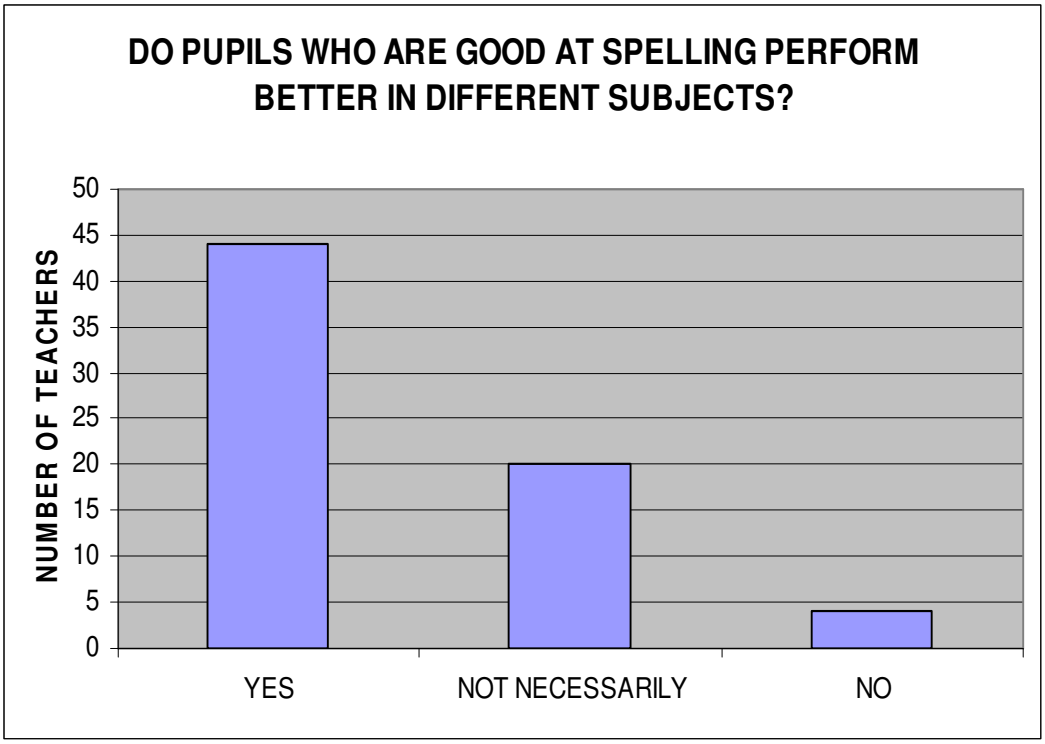


Source: made by author

A comparison is possible from graph 13. Fairly similar percentages show that spelling seems to have an impact on improved literacy as well as thereby causing improvements in other subjects. A majority of the teachers (47%) were convinced that the impact of spelling lessons on literacy was medium (not too significant but yet an improvement), and 29 (42%) agreed that it would also have a beneficial impact on the other subjects they suggested. A slightly smaller percentage of teachers (35%) said that the impact of spelling on literacy is great. Spelling also has a great impact on other subjects according to 29% of teachers asked, whilst 26% of the teachers noticed only a small impact of spelling on other subjects. Only 18% of teachers felt that spelling makes little contribution towards the improvements in literacy and none of the teachers felt that the contribution of spelling towards improvement in literacy is zero. On the other hand two teachers felt that spelling lessons do not make a difference in improvements in other subjects.

Lastly, a question was asked to find out whether pupils who are good at spelling perform better in other subjects, too. The answers (graph 14) were not particularly clear-cut; however, a prevailing number of teachers (65%) were of the opinion that pupils good at spelling would do better in other subjects too. 29% expressed that this assertion might not be necessarily true and a small number of teachers (4.4%) did not think that pupils who are good spellers necessarily do better in other subjects.

Graph 14.



Source: made by author

3.2 Analysis

The first step of the analysis is to determine how much money is spent currently on teaching English spelling in primary schools. This will be done by breaking down the teachers' salary to an hourly rate for each pay band (as seen in graph 3) and using the averaged data obtained through the questionnaires to calculate the costs. For the purposes of this report the

analysis will look almost exclusively at purely calculating how much time and (and therefore money) is spent on teaching spelling at present, and not compare it with any studies indicating how much could be saved if spelling were to be simplified, since there appears to be no research data on which to base such a comparison at present; this paper should represent the first step in evaluating how much money is spent and hence could be saved and ultimately knowing whether simplifying spelling is worth attempting.

After carrying out additional research in regard to the way the teachers receive their salaries, it is possible to perform the calculations for each separate salary group of teachers represented in the questionnaires. Firstly, it is necessary to establish the teachers' salaries. Based on the additional research, each teacher gets paid according to which group they belong to. These groups can be also identified as bands on the pay scales, and teachers get paid depending on where they stand on that particular pay scale. This is influenced by the responsibilities they hold at their particular school. The pay scales are divided into Main (M), Upper (U) and Leadership (L); these can be further divided into subcategories such as M1 to M6 for the main pay scale, U1 to U3 for the upper pay scale and L1 to L43 for the leadership pay scale with ranges for head teachers starting at L6. Annual salaries for each band (at the date indicated) are as follows:

Table 1

Scale	**£**
M1	19,641
M2	21,195
M3	22,899
M4	24,660
M5	26,604
M6	28,707

Source: www.askatl.org.uk , 2006

Table 2

Scale	£
U1	31,098
U2	32,253
U3	33,444

Source: www.askatl.org.uk, 2006

Due to the fact that most of the head teachers and deputy head teachers do not teach, the calculation will use only class teachers and teachers who are on the leadership scale but who are not head teachers. There were only two respondents who fulfil this condition and these are on the leadership scales as follows. Due to the extent of this scale (L1 – L43) only these two points will be mentioned.

Table 3

Scale	£
L1	34,083
L2	34,938

Source: www.askatl.org.uk, 2006

Once we established the payments the teachers receive, by a simple calculation the annual pay can be broken down into an approximate hourly rate. However, this would depend on many things, such as how many hours teachers work per day. This is a particular issue for employment such as teaching since even teachers themselves quite often cannot define clear-cut working hours. Therefore, for the purpose of this measurement, the data obtained from the questionnaires have been used and averaged. The following table will demonstrate the results from which the average working hours will be calculated.

Table 4

	Frequency	Percent	Valid Percent	Cumulative Percent
20 to 30 hours	4	5.9	5.9	5.9
30 to 40 hours	12	17.6	17.6	23.5
40 to 50 hours	23	33.8	33.8	57.4
over 50 hours	29	42.6	42.6	100.0
Total	68	100.0	100.0	

Source: made by author

After calculating the average hours a figure of 44 hours emerges as an average number of hours worked by teachers throughout the week. Given this, a further calculation of the hourly rate can be made for each band of the pay scale. The annual pay will be divided by 12 despite the fact that teachers do not deliver classroom work over the 6 weeks' summer holiday; however, they do get paid for it and therefore, in order to get a realistic figure, the holidays will be included in the pay, too. This can be further broken down into weekly pay from which the hourly rate can be calculated using the 44-hour average week. Based on this it is possible to summarize the results of the calculations for each of the bands in the following table. Bands M4, U1 and U2 will not be used as unfortunately these were not recorded in the questionnaires.

Table 5

Scale	£ per year	Hourly rate (£)
M1	19,641	9.30
M2	21,195	10.03
M3	22,899	10.84
M5	26,604	12.60
M6	28,707	13.60

Source: author, www.askatl.org.uk, 2006

Table 6

Scale	£ per year	Hourly rate (£)
U3	33,444	15.83

Source: author, www.askatl.org.uk, 2006

Table 7

Scale	£ per year	Hourly rate (£)
L1	34,083	16.14
L2	34,938	16.54

Source: author, www.askatl.org.uk, 2006

Having now an hourly rate for each band, and knowing that the total number of school days a year is 195 (www.coventry.gov.uk, 2006) (excluding holidays and weekends), during which literacy is taught on average by each teacher every day (graph 4), at a rate of one lesson per day (graph 5), and also presuming that (as shown in graph 6) spelling is the main topic in every literacy lesson (which is important for calculating the cost of teaching spelling in one literacy lesson) - on average approximately a quarter of each literacy lesson (graph 7) - it is possible to calculate how much it costs to teach spelling per hour as well as per year. This in particular should point out the cost fairly clearly (for simplicity it will be presumed that one hour of teaching is one hour at the hourly rate for a teacher). This will be summarized in the following table. For the purposes of clarity the orientating point in the table will be the pay scale, which means it will be possible to see just how much it costs to teach spelling by a teacher on a particular pay scale, which will then be averaged again for the purpose of clarity and simplification.

Table 8

Scale	Number of representatives	Cost of teaching spelling / hour / teacher (£)	Cost of teaching spelling / year / teacher (£)
M1	4	2.32	452.4
M2	12	2.50	487.5
M3	20	2.71	528.45
M5	4	3.15	614.25
M6	2	3.40	663
U3	4	3.95	770.25
L1	1*	4.04	787.8
L2	1*	4.14	807.3
An average Cost of teaching spelling /hour/year/teacher/£		2.85	556

* again, only two records were used since these are teachers receiving some type of leadership payment but are not head teachers or deputy head teachers.
Source: made by author

Having calculated the average cost of spelling per hour and per year as a simple illustration of how much money this is costing the LEA / state for each teacher, it appears that the costs are not particularly huge: £2.85 per hour or £556 per year on average does not seem to be a lot. However, if this is multiplied by the number of teachers in the whole country and combined with the fact that not every child is the same, some of them learn quickly, some more slowly, and some are in need of extra lessons which again increases the costs, and this total cost can grow to a considerable extent. On the other hand, these extra lessons for a few children do not incur such a huge cost, it is more a case of covering the damage that has already been done through (for example) generations of illiterate people having children and not being able to help them which in turn incurs more costs. If that particular aspect were to be removed, the total amount of the costs might not change drastically as a result of spelling being simplified, and therefore it might not be of significant importance to attempt simplification. On the other hand, it does

represent a certain amount of expenditure which could be avoided and allocated to something more immediately useful such as other subjects (as shown in graph 12).

[editorial note: the Department for Children, Schools and Families reports that there were 183,762 primary school teachers in England in 2000, which provides a national cost for the teaching of spelling, using the above figures, of some £102 million in net salary costs (to which should be added about 20% in on-costs, employers pension contributions etc), plus the costs of any spelling / literacy work by 185,429 secondary school teachers. [jmg].

Source http://www.dcsf.gov.uk/rsgateway/DB/SBU/b000222/030-t1.htm]

As mentioned before, the first step of the analysis was to establish the quantifiable costs. The second step is to discuss the perhaps more intangible benefits and costs attached to the effect that spelling might have on individuals. An account of the ultimate benefits remains part of the focus of any attempted simplification of spelling since the benefits could possibly (though of course maybe not necessarily) multiply were they to be accessible more quickly due to easier spelling; for example learning to read faster and therefore advancing faster with general education. These benefits could for example include, as seen in graph 13 in the evaluation of research questions, the fact that teachers report that spelling lessons really do seem to have an impact, whether medium or strong, in improving literacy, and quite possibly other subjects as shown. Furthermore, children who are good spellers also seem to perform better in other subjects according to a majority (64%) of the teachers asked (graph 14). These issues, however, are relatively intangible and as such cannot be precisely measured and quantified. Perhaps it could be more noticeable if there was an available measurement for exploring the relationship between good spelling and better results (for example) in their SATs. A valid point has also been noted where truly intangible benefits stem from being a good speller and hence being literate. These could be, for

example, an increased level of self-esteem and an accompanying general enjoyment of and satisfaction from schooling which might result in social benefits such as better relationships between peers as well as with teachers, and consequently better fulfilling their potential.

Even less tangible and hence less measurable are external effects or externalities such as high self-esteem influencing other children at primary schools, since this could possibly reduce the number of children insecure about themselves because of their poor literacy and therefore bullying others to compensate. Furthermore, children with good literacy skills could also produce some externalities in the form of encouragement and help to other, perhaps less able, children who can learn from them (quite a few pupils had at some point a “buddy”, a more able child who - usually under direction of teachers - befriends some of the less able children). The long-term positive externalities of literacy and education, such as contributions to the economy through being employed, have already been mentioned earlier on in this paper and therefore it is sufficient to say that benefits such as these unarguably exist and, since they are more tangible, can be quantified at least in some way through national statistics.

Those children, on the other hand, who do not happen to be good spellers and find it difficult to read and write might go on to incur extra costs to the economy as mentioned in chapter 1. There are particular figures that show the amount that this can cost - £45,000 to £53,000 as identified by Desira (2006), by the age of 37, and this is where the costs come on to the scene again. To avoid the later costs, even more costs are needed at the earlier stages such as the extra help that schools or LEAs provide to parents in the form of spelling books, extra classes, parents' evenings and focused sessions as seen in graph 9. It has also been claimed that some of the pupils would benefit from extra lessons (graph 11) which again would add extra costs in the form of teachers’ time.

On the other hand, however, it has also been said by the teachers (graph 8) that only a few children need extra help with spelling at home, although this particular information might not have such a value because, firstly, it cannot be quantified and, secondly, it was the teachers answering the question rather than parents themselves, which could cause biased answers. Furthermore, a majority of teachers felt that literacy projects are funded appropriately (graph 10) which would suggest that there is no perceived urgent need to change anything and that the teachers are relatively satisfied with the current state.

Conclusion

Many different facts have been established in this paper, such as the fact that illiteracy has far-reaching effects and is undeniably causing some extra cost to the economy in various forms such as extra money to be invested in remedial courses for people who lack basic skills, and crime-avoidance costs since these people might (due to low self-esteem and inability to find employment) seek different ways to make a living. In addition there are the costs of covering unemployment when illiterate people are quite often simply incapable of finding themselves a job. There are some further costs for, for example, medical care for uneducated people – people who are obese or depressed, which could stem from this (although not necessarily always). And indeed, it has also been previously pointed out how an educated workforce can contribute towards strengthening the economy through various means, such as contributing towards national security resources or tastes, or creating a comprehensive and educated society.

It has also been mentioned that all these costs are usually directly incurred by the government, which is due to education being of the nature that it is – a “merit good”, causing externalities (e.g. employment benefits and benefits to the whole of society) and a sort of market failure (eg being the monopoly provider does not stimulate a need for information on alternatives etc.). Therefore, there is a need to consider carefully when investing in education, and these investments should always be optimized.

Subsequently, there has been a notion that one of the possible reasons for illiteracy (alongside other reasons such as generations of illiterate parents, lack of funding, various disabilities) could be an over-difficult spelling system since English spelling is undeniably one of the most difficult spelling systems to master, invariably causing much grief to many pupils which might then

cause them to give up further learning. Therefore, this study aimed to find out the price of spelling; this has been achieved through research, data collection and simple calculations. The results are that at present on average £2.85 is spent on teaching spelling per hour, which would amount to £556 yearly per teacher. This does not appear to be a lot although quite often it is not just the teaching of spelling that incurs the costs but enhancing the performance of it in the form of books and extra tutorials, for example, which has not been quantified here, or fixing the damage caused through illiteracy. Therefore further studies on this subject might be required for us to be able to conclude anything, with this study being a first and pioneering step towards that conclusion.

Therefore, it is quite obvious that despite being able to calculate the approximate cost of teaching spelling the study remains inconclusive. There are several possible reasons for this, including, for example, the absence of studies into how much it would cost to teach spelling if the spelling system itself were easier, so no comparisons can be made to determine how much could be saved and whether this would be a saving significant enough to proceed with the reform. Consequently, despite yielding some interesting results, generalization of these can only be done to a very limited extent since the study was relatively limited in regards to the sample. The research was done on a very small scale and furthermore, did not represent all the possible variables, for example the whole pay scale was not represented (M4, U1, U2 and L3-L6 missing), although it is possible to say that this would not make a huge difference since it can be seen that the differences between consecutive classes are not particularly significant. Further limitations were that the study did not take into consideration the additional allowances teachers might receive such as SEN or TLR etc. The research was conducted at the end of the academic year when teachers are particularly busy and therefore might not think about the questions as much as they would otherwise have done, leading to possibly biased responses. Also the timing may have led to many

questionnaires not being returned and therefore it might not be possible to see the bigger picture. Furthermore, during the calculations many things needed to be presumed or taken only as an average (such as the number of days when spelling is taught - it might not be taught everyday but for the purpose of this research it has been presumed so), as they were hard to determine exactly, so that the number arrived at might not be too precise. All in all, it is possible to say that there is a potential in simplifying spelling, and it could possibly decrease the costs of general illiteracy but this study was done on a very small scale and as such cannot be used to make broad generalizations. Recommendations for the future could include conducting this on a national scale or possibly looking into other areas where a simpler spelling system could save some costs such as remedial courses like the national “Get Rid of your Gremlins” project to improve literacy skills, which is funded by the government. There could also be a comparative study carried out into how much less would it cost to teach a simplified spelling system.

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