

# WHERE DID IT ALL GO RIGHT? THE SOCIO-POLITICAL DEVELOPMENT OF GAEILGE AS A MEDIUM FOR LEARNING MATHEMATICS IN IRELAND

Máire Ní Ríordáin

NCE-MSTL<sup>1</sup>, University of Limerick, Ireland

*A significant language shift has taken place in Ireland – Gaeilge (Irish) has become trendy. It is difficult to locate where and when this change began but political and social issues have played a significant influence on this development. In particular, the explosion of Gaeilge-medium primary and second level schools has played a crucial role in the rebirth of our native language. This paper provides a historical perspective on the development of Gaeilge and Gaeilge-medium education in Ireland with particular emphasis on mathematics education and some of the socio-political issues influencing this significant development.*

## INTRODUCTION

For generations raised on ‘Peig<sup>2</sup>’, a significant language transformation has taken place in Ireland – Gaeilge (Irish) has become trendy. Normality is engraved in sending our children to Gaeilge-medium schools, seeing comedians doing gigs ‘as Gaeilge’, and tuning into television programmes presented by fluent Gaeilge speakers. In a very short period we have progressed from shunning our native language to endorsing it as a fashionable and positive thing for our country. Where did it all go right for Gaeilge? It is difficult to pinpoint exactly where it all started but what is clear is that this impromptu revolution came about through a combination of significant socio-political developments. The most enthusiastic catalyst has been the dramatic changing face of our primary and second level education system – the explosion of Gaeilge-medium schools. Previously Gaeilge-medium education was limited to remote isolated parts of Ireland known as Gaeltachtaí (all-Irish speaking districts) and these institutions were viewed by outsiders as strange and archaic. However, sending your children to Gaeilge-medium education (outside of these Gaeltacht areas) is now as necessary as possessing the latest iPod or mobile phone. Accordingly this paper will address the socio-political development of Gaeilge-medium education in Ireland, with specific emphasis on the effect of this on mathematics education in the country.

## THE IRISH CONTEXT

In order to understand the development of Gaeilge as a medium for teaching and learning mathematics in Ireland it is first necessary to give a brief political history of the Irish language in Ireland. For the purpose of this paper and to draw on the

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<sup>1</sup> National Centre for Excellence in Mathematics and Science Teaching and Learning.

<sup>2</sup> Core textbook for the Gaeilge syllabus at second level – extremely difficult and hated by all who studied it.

research undertaken by the author, she will specifically address the context in the Republic of Ireland, while illuminating comparisons with Northern Ireland where appropriate. Perhaps this is the most apt place to draw attention to the political role that successive governments have played in the development of Gaeilge and various language policies, but it is crucial to examine the actions leading up to the political divide of the country in 1921. Up until the 16<sup>th</sup> century, Gaeilge and its associated culture and traditions were dominant throughout the island of Ireland, surviving invasions by Norman and Viking groups. However, English colonisation of Ireland began in the mid 16<sup>th</sup> century and continued into the 17<sup>th</sup> and 18<sup>th</sup> centuries by means of eradicating the Irish from their lands and replacing them with English and Scottish colonists. The persecution of the Irish people was relentless and coupled with the Great Famine that swept the country during 1845 to 1852, a dramatic decline in the number of Gaeilge speakers and use of the Gaeilge language in Ireland was observed. A number of significant Gaeilge language organisations were established during this period in order to halt the decline of the use of the language including the Ulster Gaelic Society and Conradh na Gaeilge (The Gaelic League) who published documents in Gaeilge and promoted its use in everyday and academic settings. Since the foundation of An Saor Stáit (The Free State) in 1921, a divide has been established in Ireland – the Republic of Ireland (26 counties) and Northern Ireland (6 counties). Gaeilge is the first official language (English the second) of the Republic of Ireland and with the establishment of An Saor Stáit (1921) it was intended to restore the Gaeilge language and its use throughout the country. This ambitious aim was never achieved and currently Gaeilge is spoken natively by a small but increasing minority (95,503 people) of the population and specifically in 7 regions (official Gaeilge speaking districts in the Republic of Ireland) known as Gaeltachtaí (CSO, 2006). A number of positive social and political developments in relation to Gaeilge have taken place in the past 10 years including consolidation of the language at constitutional level (Official Languages Act, 2003); legal contexts (appointment of an Official Languages Commissioner); and at European level with the establishment of Gaeilge as an Official Language (2006) of the European Union (Harris, 2007). Other significant revitalisation movements have been largely targeted through education (which will be discussed in the next section); through the media - mainly TG4 (national television station) and Radió na Gaeltachta (national radio station); and an increase use of Gaeilge in the public sector through bilingual (Gaeilge and English) provision of advertising and services. All of these are positive developments for the language and have contributed to its increased use nationally and internationally.

## **THE HISTORY OF GAEILGE AS A MEDIUM OF LEARNING**

The pressure of a few hundred years of foreign occupation, along with the complicated political, religious and economic pressures of the 18<sup>th</sup> and 19<sup>th</sup> centuries, had rendered Gaeilge non-existent at the top of the social scale in Ireland. More importantly, it had weakened its position among the entire population (Ó Cuiv, 1969).

The State (under British Rule) became involved in the provision of education for the first time in the early nineteenth century, which led to the setting up of the National School system (1831). This education system is described as having “a British cultural emphasis” and having “crushed the Irish language” (Kelly, 2002, p.4). The introduction and use of the “Bata Scóir” (a tally stick used to hit students depending on the number of times they spoke Gaeilge) by teachers quickly spread as primary schools were set up throughout the country, resulting in the prohibition of Gaeilge as medium of instruction and communication. Parents supported this punishment system, as Gaeilge was associated with poverty and English increasingly with economic prosperity.

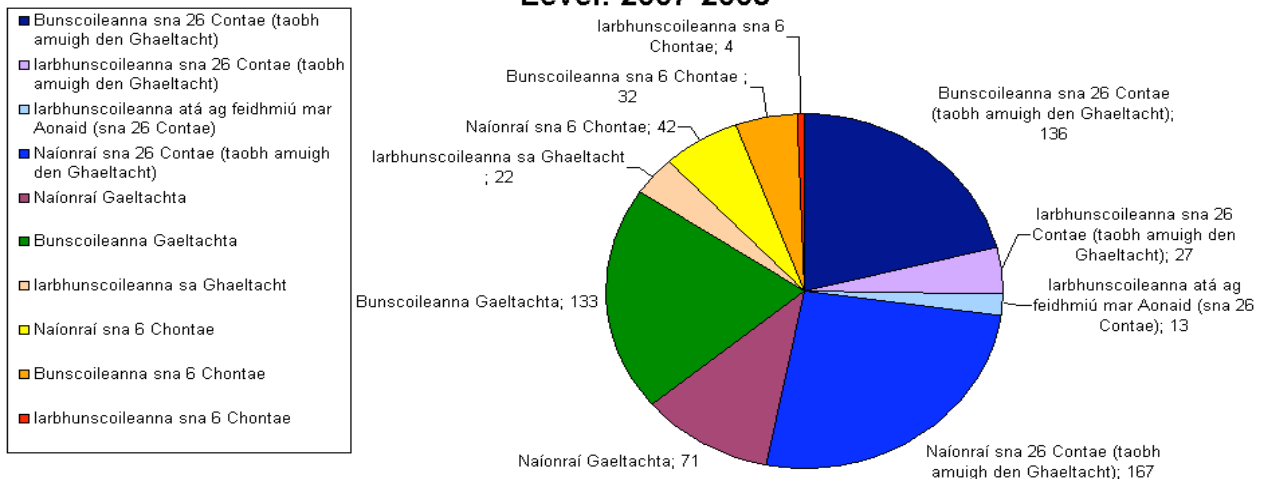
Secondary education, unlike primary education, at that time was reserved mainly for the rich and those who could afford to pay to attend second level education. Secondary schools were not widespread and therefore only a select few continued with second level education. However, like the National Schools, Gaeilge was banned from being taught and spoken within the schools and emphasis was placed on the English language. Therefore, during the nineteenth century it was evident that English was rapidly replacing Gaeilge as the native language, and the strict prohibition of Gaeilge in the education system was perceived as being instrumental in this change (Kelly, 2002).

When An Soar Stáit was established in 1921, Gaeilge was recognised as the first official language, with the intention of restoring it throughout the country (Purdon, 1999). The new state adopted a programme for restoring Gaeilge that was aimed almost exclusively at school children. The plan was to immerse all children in Gaeilge for the entire period of their schooling, so that in the space of a generation or so, the language would be brought back to everyday use (MacAogáin, 1990). The schools and education were chosen to revive the language as it was felt that they had been responsible for displacing Gaeilge with English. Also it was believed that teaching Gaeilge as a subject alone was not sufficient for reviving the language so more drastic measures would be needed and therefore all subjects, including mathematics, were to be taught through this language medium (Kelly, 2002). The debate on using Gaeilge as a medium of instruction in primary schools and a lack of implementation in all schools, continued through the subsequent decades. However, in November 1959, Dr. Patrick Hillary, the then Minister for Education, proposed that schools and teachers should concentrate on teaching Gaeilge well rather than teaching through the medium of Gaeilge (Kelly, 2002). Subsequently, two months later the Government abolished the use of Gaeilge as a medium of instruction in all but a minority of primary schools (Gaeltacht schools). Overall it was felt that Gaeilge, as a medium of instruction, had reduced the standard of education with little improvement in the use and status of the language outside of education (MacNamara, 1966).

At the time of the establishment of the Free State the emphasis on Gaeilge in second level schools was less intense than it was in primary schools. However, from 1927

Gaeilge became a compulsory subject for the award of the key state examination certificates in 1934 (Department of Education, 1975). From 1924 the Government provided additional grants to schools using Gaeilge, with the amount received dependent on the level of Gaeilge being used and spoken. As a result the number of students sitting Gaeilge in examinations increased by 15% within the first ten years of Independence (Kelly, 2002). This trend continued through the 1930s and 1940s with the number of schools teaching through the medium of Gaeilge and the number of pupils sitting the Gaeilge examination increasing steadily. Clearly and negatively what was sustaining this were the financial rewards that the Government offered those willing to use Gaeilge to the greatest extent possible within the schools. However, Gaeilge medium education at second level was primarily limited to the Gaeltacht regions of Ireland. Since the 1920s secondary schools (and primary schools) were obliged to teach Gaeilge. Compulsion was the most “consistent trait” of any of the language policies introduced (Kelly, 2002, p.14). Gaeilge was a compulsory curriculum subject, a compulsory examination subject and a requirement in order to receive certification. It wasn’t until 1973, when Richard Burke was the Minister for Education, that the requirement to pass Gaeilge in order to pass the Leaving, Intermediate and Group Certificate examinations at second level was dropped. However, an honour in Higher Level Gaeilge is still required to enter primary level teacher-training colleges. So the element of compulsion is still present for many students.

**Oideachas trí Ghaeilge ón Réamhscolaíocht go dtí an Dara Leibhéal/ Education through Irish from Pre-School to Second Level: 2007-2008**



**Iomlán=647**

1: Níl fáil ar líon iomlán bunscoileanna Gaeltachta atá ag feidhmiú trí Ghaeilge.  
 2: Tá 19 n-iarbhunscoil Gaeltachta ag feidhmiú trí Ghaeilge.

**Fig.1: Number of Gaeilge-medium pre-schools (Naíonraí), primary (Bunscoileanna) and second level (Iarbhunscoileanna) schools in the Republic (26 contae) and Northern Ireland (6 contae).**

A significant development in relation to Gaeilge and Gaelge in schools is the increase in the number of Gaelscoileanna (primary schools teaching through the medium of Gaeilge) and Gaelcholáistí (second level schools teaching through the medium of Gaelge) – Gaelge-medium immersion education outside of the Gaeltacht regions. In 1972 there were 11 primary and 5 secondary schools providing education through Gaeilge outside of Gaeltacht areas. However, the rise in popularity of immersion education is significant and has seen an increase in excess of 60% over the past decade. Currently, 136 Gaelscoileanna and 50 Gaelcholáistí have been established in the Republic of Ireland with an estimated 33,000 pupils attending these schools (Gaelscoileanna Teo., 2008, see Fig. 1). Combining this with the number of students attending primary and second level schools in the Gaeltacht areas, approximately 7% of the total primary level population and 2.5% of the second level population are learning mathematics through the medium of Gaeilge. Also, coinciding with this is the development of Naíonraí Gaelacha (Gaelge medium play schools) for pre-schoolers. Immersion Gaelge-medium education is largely a parent initiated voluntary movement provoked by the lack of success of State language policies since 1922 (Ní Mhurchú, 2001). This suggests that the general public's interest in the native language is still strong, as is their desire for their children to learn through the medium of Gaelge.

Since the 1970s Gaelge has been taught as a school subject only (Gaeltacht schools and Gaelscoileanna/Gaelcholáistí being the exceptions). It is part of the core curriculum during the years of compulsory schooling, six to sixteen. Even though Gaelge as a medium of instruction in the Irish school system has undergone many changes, significant numbers of students are learning mathematics through this medium. However, what is clear and of importance is that the Irish Government has played a significant role in establishing Gaelge as a medium of instruction in primary and secondary schools. Clearly,

“Decisions about which language to use, how, and for what purpose(s), are political. This political role of language is not dealt with in the literature on bi/multilingualism and the teaching and learning of mathematics.” (Setati, 2002, p.13).

## **SOCIO-POLITICAL CONCERNS**

The decisions of which language(s) are used in education are predominantly political in nature (Edwards, 1994). As demonstrated in the previous sections the history of the Gaelge language in Ireland and as a medium for learning mathematics has been marred by issues of access, power and dominance. In the 19<sup>th</sup> and 20<sup>th</sup> centuries, English was the dominant language of learning within the country, regardless of mother-tongue spoken. With the establishment of the new state (1921) Gaelge-medium education was central to policy plans for the revitalisation of the language and compulsion was rampant throughout the country but detrimental to student learning (Kelly, 2002; MacNamara, 1966). Therefore the last two hundred years has

borne witness to the Gaeilge language experiencing both sides of the coin - it being against the law *to* teach/speak Gaeilge and it being against the law *not to* teach/speak Gaeilge. Both extremes were introduced by the then governments and were implemented through the use of education and the schools. It is evident that the governments played a crucial role in the position of Gaeilge in schools and as a consequence its status in society. Once this element of compulsion was removed in the sixties, a catalyst for change transpired. At this time access to Gaeilge-medium education was primarily reserved for people living in the Gaeltacht regions of Ireland due to social and cultural necessity, but was looked upon by many outside these regions as backward and restrictive given the English language association with universality and economic prosperity (Kelly, 2002). However, removing compulsion signalled an element of eliminating 'choice' for parents outside of Gaeltacht regions and thus the seeds for Gaeilge-medium immersion education were sown.

Clearly, some of the Irish government interventions were not always done with tact or wisdom that might have made them more effective. Take the example of the position of Gaeilge in the schools of six counties in the North. Irish was tolerated as an optional foreign language only and as an acceptable subject in secondary schools. By the 1950s, Gaeilge was as popular and chosen as often as French was. And as Lord Charlemont, the Stormont Minister of Education said, "forbidding it (Irish) under pressure will stimulate it to such an extreme that the very dogs – at any rate, the Falls Road dogs – will bark in Irish" (as cited by Purdon, 1999, p.59). The first Gaeilge-medium primary school in Northern Ireland was established in 1971 which saw an intake of only 9 pupils (Ó Baoill, 2007). But the growth and recognition of Gaeilge-medium immersion education in the North has been as phenomenal as in the Republic, and has led to the development of a small but unique urban community of Gaeilge speakers in Northern Ireland. Similarly in the Republic of Ireland, immersion Gaeilge-medium education was stimulated when the compulsion element was removed, and the students' option of learning through the medium of Gaeilge (outside of Gaeltacht regions). Social structures emphasise the importance of choice and access to Gaeilge-medium education and that children should not be denied this opportunity for learning. Hence, Gaelscoileanna emerged in the 1970's and were independent of other primary schools in their locality. Initially, students enrolled in immersion education were restricted to those coming from Gaeilge speaking homes and had a strong grasp of the Gaeilge language (Ó Baoill, 2007). Therefore, discrimination was evident in the early days but policies changed due to demand for access and the general public's interest in sending their children to immersion education and developing bilingualism (Gaeilge and English).

Although the initial establishment of Gaeilge-medium education (outside of Gaeltacht regions) arose out of social influences (largely community and parental initiatives) and a resistance to political policies, growth and development have been stimulated by financial and facilitative support by various Governments and governmental bodies throughout the late nineties and early twenty first century (Ó Baoill, 2007).

Another consideration is that mathematics learning and teaching are socially and culturally situated, and mathematics cannot be considered culture free (Bishop, 1988) with mathematical knowledge culturally based and embedding social and cultural values of the group. As Barton (2008) sums up adequately “The practical reality is that every indigenous peoples’ context is different” (p. 167). The range of difference is broad. For example differences may exist in relation to language use; differences in relation to the political situation in the context; differences in education; and many more (Barton, 2008). Children growing up in the Gaeltacht areas of Ireland are immersed in a different language and culture to those growing up in all English communities. Similarly, children attending the Immersion schools will have different experience to those in Gaeltacht areas and all-English areas. Accordingly, it is anticipated that these two different Gaeilge groups within the Irish context will possess a different world-view, and accordingly a different mathematical world, to those from an all-English environment within the country.

## **MATHEMATICS EDUCATION RESEARCH IN THE IRISH CONTEXT**

Given the significant growth in Gaeilge-medium education in recent times it is surprising that little research has been undertaken in the Irish context. The author’s work is the first of its kind to be undertaken on mathematics education and bilingualism (Gaeilge and English) in the Irish context and its findings are significant and demonstrates that bilingualism is positive for mathematics learning (Ní Ríordáin & O’ Donoghue, 2009). Gaeilgeoirí (students who learn through the medium of Gaeilge) outperform monolingual students mathematically, once an appropriate proficiency in both languages has been achieved. Bilingualism provides students with the ability to undertake mathematical thinking in two languages and thus provides a cognitive advantage over monolingual students. The author’s findings are consistent with work carried out internationally (e.g. Clarkson, 1992; Cummins & Swain, 1996; Dawe, 1983) and contribute to the robustness of Cummins’ Threshold Hypothesis (1976). Other factors examined included the difficulties encountered with the English mathematics register; an assessment of where problem solving through the medium of English breaks down for Gaeilgeoirí; and an investigation of the qualitative aspects of a transition to a new language of learning for mathematics (Ní Ríordáin, 2008). Clearly, this research is language orientated and has provided positive information on the Irish context. However, this is not sufficient to provide a comprehensive perspective on learning mathematics through the medium of Gaeilge, nor sufficient to sustain research in this field of mathematics education in Ireland.

In particular, if the author is to discuss her work in relation to other cultures it is necessary to examine issues other than just the linguistic aspect. There is a need to move from a language orientation to greater issues of a socio-political and cultural nature. Mathematical discourse is concerned with the ways in which ideas are expressed as well as what those ideas entail. The ways of representing, thinking, talking, questioning, agreeing, and disagreeing is central to students learning and understanding of mathematics. How this is conveyed through the medium of Gaeilge

will be different to how mathematical discourse is conveyed through the medium of English or any other language. However, what is of concern to the author is the process through which the mathematics register was developed through the medium of Gaeilge (and continues to be developed) and accordingly the influence that this has on the mathematical discourse taking place in Gaeilge-medium education. There is a need to look further at how learning mathematics through the medium of Gaeilge can be developed in order to ensure positive bilingual outcomes for all students learning through the medium of Gaeilge.

Two theories that provide the justification for examining further the cultural and socio-political aspect of mathematical discourse in Gaeilge are those of ‘alterity’ (Brandao, 1997 as presented by Domite, 2009) and ‘listening to’ (Freire, 1996)<sup>3</sup>. Alterity refers to the process of defining “other” groups in relation to ones own group. Key points that need to be considered in relation to mathematics education from a cultural/political aspect include that the process of alterity generates awareness of our own perceptions and beliefs; it creates social and cultural order; and through engagement in the process we may fail to take into account information from outside our own cultural assumptions. Thus, the process of alterity highlights how group differences may occur. Paulo Freire’s (1996) concept of ‘listening to’ is a way of expressing the need to hear others in order to engage in meaningful dialogue with them and to develop a deeper understanding of the ‘other’s’ knowledge and worldview. This concept is closely related to a political attitude in recognizing that we can interfere and generate educational change for human good. It also incorporates a pedagogical attitude in that for example mathematics teachers in English medium education with Gaeilgeoirí in their class can choose to cater for these students through their teaching of mathematics.

The process of alterity firstly permits us to question how Gaeilgeoirí and Gaeilge-medium mathematics education are socially and culturally positioned within the Irish education system. Secondly it generates curiosity in relation to who is developing the mathematics register in Gaeilge and how does the process of translating the English mathematics register into Gaeilge capture the *fior-Ghaeilge* (true/old Irish) mathematics register in use. Therefore, a key aim of future research is to investigate the consequences of these actions on the development of the Gaeilge mathematics register and in turn the potential influence of this on mathematical discourse through the medium of Gaeilge. The concept of ‘listening to’ generates questions in relation to who was involved in developing the Gaeilge mathematics register and who was consulted and ‘listened to’ in order to develop the current register in use. The author seeks to chart the development of the Gaeilge mathematics register through the decades and those involved in its development. In particular the author seeks to establish how the socio-cultural background of those involved may have influenced the current mathematics register and discourse in use in Gaeilge medium mathematics

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<sup>3</sup> See the acknowledgements section at the end of this paper.



classrooms at primary and second level education in Ireland, and compare to what a *fíor-Ghaeilge* mathematics register might look like. There is a need to address the political and cultural influence on the development of the Gaeilge mathematics register, and accordingly if suggestions can be generated in order to enhance the mathematical discourse taking place in Gaeilge medium education.

## CONCLUSION

Gaeilge is more accessible to the majority of people now (media, increase in language provision, advertising, etc.) and attitudes have changed towards the language and its use in daily life in Ireland. This reflects the significant increase in Gaeilge-medium education provision within the country, a provision that continues to increase annually. Clearly, in the past decade or so, Gaeilge and our national heritage have undergone a revival, thus reinstating pride in our native language and culture but this is a relatively new phenomenon and the best is yet to come. This paper has presented the socio-political influences on the development of Gaeilge as a medium of learning and but little research has been carried out in the Irish context in relation to this. The next step lies in extending the mathematics education research undertaken to date by the author to examining the socio-political and cultural influences on the development of the mathematics register through the medium of Gaeilge in Ireland.

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## REFERENCES

- Barton, B. (2008). *The Language of Mathematics – Telling Mathematical Tales*, New York: Springer Science and Business Media.
- Central Statistics Office (2006). *Census 2006*. Retrieved January 20<sup>th</sup>, 2007 <http://beyond2020.cso.ie/Census/TableViewer/tableView.aspx?ReportId=12699>.
- Clarkson, P. C. (1992). Language and mathematics: A comparison of bilingual and monolingual students of mathematics, *Educational Studies in Mathematics*, 23(4), 417-429.
- Cummins, J. (1976). The influence of bilingualism on cognitive growth: A synthesis of research findings and exploratory hypotheses, *Working Papers on Bilingualism*, 9, 1-43.
- Cummins, J., & Swain, M. (1986). *Bilingualism in Education: Aspects of Theory, Research and Practice*, New York: Longman.

- Dawe, L. (1983). Bilingualism and mathematical reasoning in English as a second language. *Educational Studies in Mathematics*, 14(4), 325-353.
- Department of Education (1975). *Education Acts 1922-1975*. Dublin: Stationary Office.
- Domite, Maria do C. S. (2009). *Alterity and Freire's critical concept of "listening to": contributions to the foundations of multilingual analysis*. PowerPoint presentation, Feb. 2009, Faculty of Education, University of São Paulo, Brazil.
- Edwards, J. (1994). *Multilingualism*. London: Penguin.
- Freire, P. (1996). *Pedagogy of the Oppressed*. New York: Continuum.
- Gaelscoileanna, Teo (2008). *Fás ar an nGaelscolaíocht sa Ghalltacht*. Retrieved October 10<sup>th</sup>, 2008 <http://www.gaelscoileanna.ie/index.php?page=aims&lang=en>.
- Harris, J. (2007). Bilingual Education and Bilingualism in Ireland North and South. *International Journal of Bilingual Education and Bilingualism*, 10(4), 359-368.
- Kelly, A. (2002). *Compulsory Irish: Language and Education in Ireland 1870's-1970's*. Dublin: Irish Academic Press.
- Ó Baoill, D. P. (2007). Origins of Irish-medium Education: The Dynamic Core of Language Revitalisation in Northern Ireland. *International Journal of Bilingual Education and Bilingualism*, 10(4), 410-427.
- Ó Cuiv, B. (1969). *A View of the Irish Language*. Dublin: The Stationary Office.
- Purdon, E. (1999). *The Story of the Irish Language*. Cork: Mercier Press.
- Mac Aogáin, E. (1990). *Teaching Irish in the Schools: Towards a Language Policy for 1992*. Dublin: The Linguistics Institute of Ireland.
- MacNamara, J. (1996). *Bilingualism and Primary Education: A Study of Irish Experience*. Edinburgh: University Press.
- Ní Mhurchú, H. (2001). *The Irish Language in Education in the Republic of Ireland*. The Netherlands: Mercator-Education.
- Ní Ríordáin, M. (2008). *An Investigation into Teaching and Learning Mathematics through Gaeilge: Additive and Subtractive Bilingualism*. Unpublished PhD Thesis, University of Limerick, 2008.
- Ní Ríordáin, M., & O' Donoghue, J. (2009). The relationship between performance on mathematical word problems and language proficiency for students learning through the medium of Irish. *Educational Studies in Mathematics*, 71(1), 43-64.
- Setati, M. (2002). Researching mathematics education and language in multilingual South Africa. *The Mathematics Educator*, 12(2), 6-20.