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TOM KELLAGHAN AND THE IRISH JOURNAL OF EDUCATION: WORKS OF A LEADER AND PIONEER IN EDUCATIONAL RESEARCH

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This article describes the contributions of Thomas Kellaghan (1933-2017) to the *Irish Journal of Education* between 1967 and 2015, bringing together the complement of research articles that he authored and co-authored for this journal. As a leading educational researcher of his time, he was devoted to the pursuit and dissemination of knowledge. Some consistent features of his work include transparency and integrity in the conduct of research and in the interpretation of findings; discernment in the use of tests and test data; attention to the requirements of policymakers; a focus on using resources economically; and an enduring concern for the disadvantaged. His articles in the *Irish Journal of Educatio*n account for just a small segment of his publication record. The task of uncovering the full extent of his legacy to educational research is immense and well beyond the scope of this paper.

Thomas or Tom Kellaghan, co-founder of the *Irish Journal of Education* in 1967 with Donal F. Cregan, President of St Patrick's (Teacher Training) College (1957-1976), was recognised nationally and internationally as a leading educational researcher until his death in 2017. As first Director of the Educational Research Centre in Dublin (1966-2009), he oversaw the development of a vast body of work in educational research, assessment and evaluation; gained international recognition in the areas of national assessment and examination systems; and was in a position to inform and influence educational policy in Ireland and elsewhere over decades. While the full extent of his prolific scholarship is not easily traced, a lengthy record of publications is testimony to his academic legacy. This stands at more than 40 books, at least 50 formal research reports and about 150 journal articles, some of which were published in major international journals including the *Harvard Educational Review* and the *Journal of Educational Measurement*.

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In this paper, we look at Tom Kellaghan's contribution to the *Irish Journal of Education* (also referred to as *IJE*) which he established within a short time of becoming Director of the Centre. The aims of the *IJE* were simply stated, 'to help teachers and others interested in education to keep in touch with developments in educational theory and practice' (Editorial, vol.1, p.3) but ambitious nonetheless. Even in the very early volumes, a diverse range of submissions featured, signalling a clear intent to attract and engage with a wide readership. In addition to targeting a home audience, the *Irish Journal of Education* had an international focus from the outset. This was obvious in its patronage – in the support it had from a panel of renowned international editorial consultants; in its contents – inspired, in no small part, by developments in education and research outside of Ireland, especially in the United States (US) but also in the United Kingdom (UK); and in its distribution to universities, libraries and individual subscribers across the US and Europe. Notably, it had an impressive number of submissions from authors based in universities outside of Ireland. In time, the *IJE* became an important outlet for on-going studies at the Educational Research Centre, facilitating publication of secondary analyses and/or research at an early stage of development.

Tom Kellaghan began work on the first two volumes of the *Irish Journal of Education* as associate editor. Thereafter, he assumed the role of editor (a position he shared with Donal F. Cregan for more than 25 years) until 2015 by which time 40 volumes had been produced. All of the production (editing, typesetting, proofreading and distribution) was completed in-house apart from printing and the engagement of external reviewers. As editor, he was well known for his critical eye, forensic attention to detail, and countless amendments. Those who persevered had the satisfaction of knowing that their work had been published to the highest standards. Additionally, he contributed, solely or with others, a total of 34 articles between 1967 and 2011. Considering the spectrum of his publications, we can say that few aspects of education escaped his attention. For this paper, however, our focus may be narrowed to the following eight themes or categories of educational research that feature in his work in the *IJE*, each with between three and six articles: Educational participation (four articles); educational disadvantage (five articles); student characteristics (three articles); student achievement (four articles); studies of examinations (four articles); teacher judgments of student characteristics (three articles); instructional practices and classroom organisation (five articles); and public opinion surveys (six articles). Three book reviews published in the late 1960s (Kellaghan, 1967a; 1968; 1969a) and an appreciation of Donal F.

Cregan (Kellaghan, 1998) will not be considered, as these entries can be regarded as having more to do with the work of others than with the research priorities and interests of Tom Kellaghan.

In examining the different aspects of Tom Kellaghan's contribution to the *Irish Journal of Education*, it is not our intention to summarise all of this work. We have, however, set ourselves the task of bringing together the full range of investigations he was involved in, providing context where possible, outlining key findings of some of these investigations, and drawing attention to the various methodologies applied to different kinds of research questions. Towards the end of the paper, our focus will be on identifying distinctive features of his scholarship, now part of his legacy, which may have some enduring and general relevance to educational research.

EDUCATIONAL PARTICIPATION

Exploring the relative contribution of various influences on students' paths through formal education has been a dominant and persistent theme of educational research and is the underlying focus of the four articles in this category: Factors related to choice of post-primary school in Ireland (with Vincent Greaney, 1970); Participation in university education by gender and geographical location (with Patricia J. Fontes, 1980); Participation in the Leaving Certificate 1961-1980 (with Mary Hegarty, 1984); and Vocationalism in second-level education in Ireland (with Mary Lewis, 1987). The tracking of students, and their educational achievements, was of particular interest in Ireland during the 1970s and 1980s following a number of important policy changes. These included the introduction of free education and free transport to schools (1967), the raising of the school-leaving age from 14 to 15 years (1972), the establishment of comprehensive (1963) and community (1972) schools and an increased emphasis on scientific, technical and practical areas in the curriculum (Kellaghan & Hegarty, 1984). Interest in this aspect of educational of research was also evident in the work of other academics in Ireland at this time, for example, in Clancy and Benson's (1979) sociological study of higher education in Dublin and Clancy's subsequent (1982, 1988, 1995 and 2001) national survey reports of higher education participation.

The variables selected for inclusion in these studies of educational participation reflected concerns of the time. In the 1970 study of post-primary school selection, ability (verbal reasoning scores on standardised tests), home background influences (social status, size of family, position in family, and

parental interest) and location (city, town, rural) were the main 'background' variables examined. Gender was included but was not an important focus of analysis (though it did feature to a greater extent in all of the later publications in this category). This is not surprising as it is only during the 1980s that gender came to be associated with public and policy discourse on equality of educational opportunity. As Tom Kellaghan himself notes, the 1980 '*White paper on educational development* does not appear to regard such inequality as problematic. Like earlier statements, it spoke in general terms of a policy 'to enable each pupil to identify and develop his talents and thus to help him realise his potential as a human being'' (Kellaghan & Hegarty, 1984, p.73).

Conducting large-scale research studies is expensive and time-consuming but costs may be reduced by making the most of available resources. Though not mentioned in writing, this consideration is evident in a number of the articles published in the *Irish Journal of Education* and seems to have mattered when it came to examining the issue of educational participation: In all of these studies, data that already existed were used as the main sources of information. For the study on university education, published information on student numbers by county of residence was obtained from the *Accounts and student statistics* reports of the Higher Education Authority while Census figures were used to calculate the total numbers of males and females in the relevant age group in each county. Department of Education reports provided all of the data for both the study on Leaving Certificate participation and the study on vocational education. In the study of post-primary school selection, a sample of 500 children was drawn from a larger sample of 2,164 11-year olds who had taken part in the standardisation of a verbal reasoning test in 1967. This base-line information was subsequently enhanced by the collection of additional follow-up data from teachers who provided further detail on the home background characteristics of students and their choice of post-primary school. The data from this sample were also used in Greaney and Kellaghan's (1984) study that tracked students from primary school, through second- and third-level education, and finally into the work force. The study was considered important at the time not least because it was longitudinal but also because it had measures of ability and socio-economic background. Differences in the interpretation of the relative contribution of each of these influences on student outcomes gave rise to considerable controversy, re-analyses of the data and much debate following publication of the study in 1984 (see also Kellaghan & Greaney, 1985; Raftery & Hout, 1985; Whelan & Whelan, 1984).

EDUCATIONAL DISADVANTAGE

Reflecting international concern about the performance of children from low-income families in school, a series of four articles on educational disadvantage in Ireland was published in the early-to-mid 1970s: The scholastic performance of children in a disadvantaged area (with Deirdre Brugha, 1972); Intelligence and achievement in a disadvantaged population: A cross-lagged panel analysis (1973); A factorial study of the characteristics of preschool children (with Betty Jane Greaney, 1973); and A home intervention project for preschool disadvantaged children (with Peter Archer, 1975). A fifth and final article, Towards a definition of educational disadvantage, was published much later in 2001 (Kellaghan, 2001a). Three recurring questions underpin all of this work. Firstly, what does it mean to be disadvantaged? Secondly, which measures are appropriate to examine the educational progress of young children from disadvantaged backgrounds and which are not? And thirdly, what can research tell us about the value of intervention and its timing?

A close reading of these articles reveals considerable investment in the concept of educational disadvantage as a problem that can be ameliorated by intervention. Defining disadvantage was regarded as an essential first step towards a clearer understanding of 1) how it might impact adversely on children's learning, and 2) the kinds of solutions that might be likely to prevent or improve poor performance at school. At the core of this conceptualisation was the belief that, for children from disadvantaged backgrounds, a mismatch (in economic resources but also in cultural and social ones) between home and school environments somehow makes adjustment to school difficult and impedes learning. Any simplistic associations between educational disadvantage and poverty, low socio-economic status or lone parenthood were refuted, however, in light of evidence that some children living in circumstances such as these score well above the mean on standardised tests. Clearly, the use of such tests was seen as key to providing valuable information about the progress of children at school and how it might be impacted by factors such as disadvantage. Test scores and achievement data were also put to use in an interesting attempt to examine associations between intelligence and achievement. The focus of the 1973 study was to improve understanding of the particular characteristics and needs of young children from disadvantaged backgrounds with a view to identifying the most effective interventions to support their learning needs.

Support for the possibility that intervention could raise performance was derived from findings that children with the same intellectual abilities, given different home backgrounds and/or different educational environments, could reach different levels of scholastic achievement (Kellaghan & Brugha, 1972). An attempt to explore this possibility in a practical way in a small-scale home intervention project was reported in the article co-authored with Peter Archer in 1975. It involved 38 hours of home visits from nine teachers over a two-year period to 12 preschool children from disadvantaged homes and their mothers. A control group (that did not take part in the intervention) was drawn from the same local area to compare outcomes. At the end of the period of intervention, differences between the disadvantaged/experimental and control groups were found not to be statistically significant either with respect to the children's scores or their mothers' responses. This finding, though it may be regarded as disappointing, did not deter the authors from concluding that similar interventions were worth pursuing or from using the publication to disseminate lessons learned from the experience. In a thorough analysis of why no statistically significant differences were found, shortcomings in the design of the study were noted (small sample size) as well as in the intervention itself (lack of intensity), along with other factors which might have affected its implementation (e.g. some of the children started school before the end of the intervention).

While this early study involved visits to homes, most of Tom Kellaghan's work on educational disadvantage was based on school interventions, albeit with high levels of parental involvement. In his final article in *the Irish Journal of Education* on the topic, he argued (contrary to a popularly held view at the time that 'middle-class solutions' should not be imposed on 'working-class problems') that schools, in receipt of public funding, have a duty of care to address disadvantage in ways that are based on a sound understanding of how resource deficits of various kinds can undermine children's learning and development. A further notable feature of his work on educational disadvantage was a commitment to earlier rather than later intervention. This is most clearly evident in Kellaghan's persistent emphasis on studies involving preschool children. Older children were not excluded though (Kellaghan & Brugha, 1972) and their involvement allowed test data comparisons between different age groups. The study findings showed a decline in average IQ scores (based on the *Stanford-Binet Intelligence Scale* and the *Cattell Culture Fair Intelligence Test*) by the age of eight years in children from disadvantaged backgrounds, strengthening the case for early intervention. Using his extensive

knowledge of the international literature, he applied the concept of 'cumulative deficit', to support the findings, placing them in the context of a more generally observed phenomenon whereby 'deprivational influences have a greater influence at later developmental stages than at earlier ones' (Deutsch & Brown, 1967, p. 305).

Very detailed descriptions of the sample and comparison groups featured in much of the work on educational disadvantage, as did a thorough critique of psychological and scholastic tests that were used to measure the progress of young children. While acknowledging the challenges for all young children in a test environment, the risks of making decisions based on a single cognitive test in the case of those with relatively low scores were specifically noted. Reflecting this concern, an array of measures was used in two of the studies in these articles (with Betty Jane Greaney, 1973 in particular, but also with Deirdre Brugha, 1972) which focused on the strengths and weaknesses of the several tests used rather than the performance of the children taking them. As a result of these studies, a number of tests were identified as having very limited use or relevance. Others were endorsed, alongside teacher ratings on children's performance, which were regarded as promising. A further important outcome of this body of work was the finding that tests with high verbal content, compared to less-verbally loaded ones, revealed greater differences between the disadvantaged and comparison groups, pointing towards the need for interventions specifically designed to promote language and literacy development.

STUDENT CHARACTERISTICS

In addition to shedding light on the needs of the disadvantaged at school, other articles in the *Irish Journal of Education* are indicative of Tom Kellaghan's more general interest in the characteristics of successful learners. The first of these (with Elizabeth Neuman, 1971) entitled 'Background characteristics of children of high verbal ability', contributed new information about the family circumstances of children with different ability levels in Ireland as well as enabling comparison with similar studies of 'gifted' children in the US and UK. Drawing on the sample of 11-year-olds who took part in the 1967 verbal reasoning test standardisation, and their teachers' responses to a follow-up teacher questionnaire, a subsample of the top 10% on the test was compared with a subsample of children of average verbal ability on a number of background variables. Several significant differences between the groups

were found (but not on ordinal position in the family or on gender, then referred to as 'sex', which, we may note, *was* a variable of interest even in this early study). Based on these findings, it was concluded that 'a relatively small family of high social status in which the parents are interested in their children's education is more likely to produce a child of high ability than a larger family of lower social class in which parents do not show interest in their children's education' (Kellaghan & Neuman, 1971, p.12). The findings, though not surprising in light of what is known today, were important at the time in drawing attention to the advantages bestowed on children by virtue of favourable home environments. Of greater concern, however, were the many children with high verbal reasoning scores identified in the study whose families did not have sufficient resources to help them realise their full potential. This potentially disadvantaged group was the main focus of the article's concluding paragraph which also underlined the costs that would inevitably result from a loss or 'waste' of talent and potential, not only to the individuals themselves, but to wider society.

In a second article on student characteristics, cognitive and personality factors associated with the class placement (ranking) of pupils (with Vincent Greaney, 1972), the complexity of pupil assessment by teachers was explored. Again, this study drew on the sample of 11-year olds in Fourth, Fifth and Sixth classes in primary schools who had taken part in the verbal reasoning test standardisation in 1967 and their teachers who completed a brief questionnaire in the following year. The questionnaire was used to elicit information about (1) the class place of the pupils, (2) the perceived difficulties of pupils in curricular areas and (3) the perceived personality characteristics of pupils. The main research question, as expressed in the article, was 'how are teachers' perceptions of general scholastic progress (for which class placement is used as the index) related to their perceptions of the progress of pupils in particular curricular areas on the one hand (the cognitive component) and to their perceptions of the personality characteristics of pupils on the other (the moral component)?' (Greaney & Kellaghan, 1972, p. 94). Several findings of note emerged from the results of a series of multiple regression analyses. Firstly, writing activities were assigned a much higher importance than oral activities in teachers' allocation of class places; secondly, a high rating in English writing predicted a higher class position than a high rating on any other cognitive variable; thirdly, non-cognitive factors were found to be highly relevant to teachers' judgments (more than 50% of the variance in class placement was accounted for by the 'moral dimension' of achievement).

Variation in the predominance of one domain over the other was also observed and, reflecting the complexity referred to above, was found to be associated with differences in the age and/or ability of pupils and in the relative values teachers themselves attach to both domains.

The third and final article in this category, Gender differences in the scholastic self-concepts of Irish pupils (with Patricia J. Fontes), was published in 1988. It was based on information obtained from a sample of boys and girls (3,623 pupils in all) who had taken part in Kellaghan, Madaus and Airasian's (1982) study described below. The pupils, who were in their final year of primary school, were asked to compare themselves to their classmates on several cognitive and affective areas presented to them in a questionnaire. The findings showed largely positive ratings for both genders. Boys, however, rated themselves more favourably on eight of the characteristics examined including mathematics, spoken Irish, written Irish and English (reading and composition) as well as on sports, memory and intelligence while girls rated themselves more favourably on just three (attitudinal and motivational) characteristics – interest in reading, interest in school and keenness to do well in school. The authors were puzzled by the findings which, they noted, did not reflect actual achievement differences between the genders.

STUDENT ACHIEVEMENT AND PERFORMANCE

Tom Kellaghan had a great interest in student achievement. Indeed, he was instrumental in attracting funding to the Educational Research Centre in the 1970s for a large-scale study on the effects of standardised testing in collaboration with colleagues from Boston College, which resulted in one of Tom's major book-length publications, *The Effects of Standardized Tests* (Kellaghan, Madaus & Arasian, 1982). The study was important in the early development of the Centre, as it provided access to both funding from the Carnegie Corporation of New York and international expertise. His work in this area saw the introduction of standardised tests into Irish schools and classrooms in the late 1970s. A decade later, in the late 1980s, Tom was instrumental in involving Ireland in some of the earliest international assessments of educational attainment (for example, the First and Second International Assessments of Educational Achievement, sponsored by the Educational Testing Service in the US). Later on, he oversaw Ireland's participation in studies of the International Association for the Evaluation of Educational Achievement (IEA), including the Third International

Mathematics and Science Study (TIMSS), and sat on the Board of Participating Countries during the early development of the OECD's Programme for International Student Assessment (PISA). As Director of the Centre, Tom also oversaw the establishment of national assessments at primary level across a range of subject areas (English reading, mathematics, Irish) from the early 1980s onwards, and authored or co-authored reports on the national assessments (e.g., Cosgrove, Kellaghan, Forde & Morgan, 2000) or drew on the data they provided to review educational standards (e.g., Kellaghan, 2001b).

In the second volume of the *Irish Journal of Education*, Tom, along with George Madaus and Peter Airasian, reviewed the extant research on the effects of standardised testing on students, teachers, organisations sponsoring tests, and parents (Madaus, Airasian & Kellaghan, 1971). Defining standardised tests to include examinations, achievement tests, and measures of intelligence, the authors highlighted a lack of research evidence that succeeded in separating out the effects of these measures, compared with other assessment information that teachers can call on, including their own evaluations of their pupils. In this sense, the review article made a strong case for a study on how access to standardised test scores might impact on the work of teachers in classroom settings, while controlling for other relevant factors. This and other important issues such as the effects of assessment outcomes on children's self-concepts and teachers' knowledge about assessment were subsequently addressed in the large-scale 1982 study.

Two *IJE* articles on student achievement give some insights into Tom's interest in the transition from primary to post-primary schooling (Kellaghan, Madaus, Airasian & Fontes, 1976; Close, Kellaghan, Madaus & Airasian, 1978). These addressed the mathematical achievements of students at the beginning and/or end of Sixth class (primary) and in First year (post-primary), including gains made at these class levels. Using a criterion-referenced test (where objectives were drawn from the mathematics curriculum for Fifth and Sixth classes), pupils exhibited the strongest performance on lower-level processes (e.g., Operations with Whole Numbers, Fractional Number Structure) and were weakest on Arithmetic Problems. Students showed stronger progress on target objectives in Sixth class than in First year, while boys (compared with girls) and students entering secondary schools (compared with those entering vocational schools) had higher mastery scores across content areas. The papers addressed issues that are relevant today, including the need for continuity between primary and post-primary mathematics; the

need to review key (socially-relevant) objectives for students who have not mastered them by the beginning of post-primary schooling; a consideration of whether all pupils in primary school should be expected to complete the same mathematics curriculum; the effects of summer learning loss; the quality of instruction in some aspects of the mathematics curriculum; and the ability of students to apply mathematical skills to real-world problems.

Achievement (defined as general cognitive development) was just one aspect discussed by Tom in an article evaluating the performance of second-level education in Ireland (Kellaghan, 1989); others included non-cognitive development, vocational preparation, allocation of educational benefits, and custodial functions. The main concerns underpinning the review were the lack of research-based evidence on these key aspects, a need to make schooling more relevant to students' current and future lives, and differences in the allocation of educational benefits to students of different genders and socio-economic groups. Concerning cognitive development, Tom raised issues about standards in literacy and numeracy (based on performance in State examinations) and called for 'information on the output of schools in terms of the literacy and numeracy skills that students would need to function in everyday life' (Kellaghan, 1989, p. 71), perhaps anticipating what the OECD Programme for International Student Assessment (PISA) study would seek to provide in respect of 15-year olds from 2000 onwards. In considering non-cognitive outcomes, Tom highlighted low rates of student participation in music and art, and argued that these subjects should be more accessible to students. He also noted an increase in the number of courses designed to provide vocational education at Leaving Certificate level, whereas in the past, employers would have been satisfied with the old Group or Intermediate Certificates. Tom also linked increased participation in post-primary schooling to an increased 'custodial role' for post-primary schools. The inclusion of several articles by researchers at the Educational Research Centre on various aspects of the performance of students in Ireland in international assessments during his editorship of the *IJE* is further evidence of Tom's interest in the overall performance of the educational system in Ireland.

PUBLIC EXAMINATIONS

A related strand in Tom Kellaghan's work in the *Irish Journal of Education* is the analysis of public examination results. His articles can be linked to a broader strand of research on examinations in both Ireland (e.g., Kellaghan &

Dwan, 1995; Kellaghan & Millar, 2003) and internationally (e.g., Kellaghan & Greaney, 1992, 2020). Focusing mainly on the Leaving Certificate Examination, Tom and his colleagues sought to examine issues of equity in examination results, including between-school differences in achievement (Madaus, Kellaghan & Rakow, 1976), effects of allocating additional points for answering examination questions through Irish (Mac Aogáin, Millar, & Kellaghan, 2010) and combining scores across different components within and across subjects (Mac Aogáin, Millar & Kellaghan, 2011). The effects of a payment by results system in place for public examinations between 1879 and 1924 were also examined (Madaus, Ryan, Kellaghan & Airasian, 1987). Research and analysis on the Leaving Certificate, including the work completed by Tom, retains high relevance to current debates on the Leaving Certificate.

Madaus et al. (1976) partitioned variance in Leaving Certificate scores (by subject and overall) and on standardised measures of ability and attainment in boys' secondary schools into variance between schools, between classes within schools, and within classes (within schools). Among the 13 subjects examined, just four – Irish (Higher level), and Physics, Chemistry and Biology (Common level) – had significant between-school variance. Significant proportions of variance between classes, which occurred for all four standardised measures and for nine examination subjects, were interpreted as evidence of streaming or selection within schools. This study highlights emerging attention to the effects of streaming, an issue examined more recently by Smyth and McCoy (2011), and one that predates the focus by the OECD on quantifying between-school and within-school differences in achievement in the PISA assessment (e.g., OECD, 2004, 2019).

Mac Aogáin et al.'s (2010) article addressed the effects of bonus points for taking certain subjects through Irish in the Leaving Certificate. Although students could gain additional marks (up to 5 or 10%, depending on subject area), it was found that a majority (52% of candidates) did not gain any bonus points, due to rounding, and the use of sliding scales designed to ensure that candidates did not score more than 100 percent. The authors also demonstrated that a scenario described by the Commission on the Points System (1999), involving a candidate moving from Higher level Grade A2 to Grade A1, and therefore accruing four bonus marks, was highly unlikely to occur in practice (with an odds of 100,000 to 1). While Tom and his colleagues did not object in principle to the awarding of additional marks, acknowledging that there were arguments for and against the practice, they were highly critical of the

manner in which points were allocated, which they deemed was neither equitable nor transparent.

Variation in the discriminatory power of different subjects was a key theme in Mac Aogáin et al.'s (2011) analysis of Leaving Certificate results in the context of their contribution to CAO total score points. Factors they identified as contributing to the relative difficulty of subjects included large differences in the percentages of students taking different examinations at higher level, average high points awarded in some subjects, a decline in the discriminatory power of some subjects over time (as more high grades were awarded) and more students taking Higher-level papers over time. However, in considering a way forward, the authors dismissed proposals to impose norm-referenced procedures to reporting on performance, instead preferring a gradual approach to reform that would garner public support.

In considering the effects of payment by results, which was in place between 1879 and 1924 (i.e., prior to and immediately after national independence), Madaus et al. (1987) observed that the Intermediate Board of Education, which ran the system of examinations administered to students in upper-secondary schools, often issued new syllabi, or adjusted the passing marks for different subjects and the number of subjects required for an overall pass, in order to control the amount paid out to schools, and thereby balance its annual budget. Tom and his colleagues noted that passing rates improved following abandonment of payment by results, thereby 'restoring what might be considered a free market system to the educational arena' (p. 91).

TEACHER JUDGEMENTS OF STUDENT CHARACTERISTICS

Given Tom's interest in assessment, it is not surprising that he focussed on variation in student achievement, and, in particular, on relationships between teacher judgements of pupils' performance and their performance on external measures such as standardised tests. Three articles in the *Irish Journal of Education* examined this issue from different perspectives. The first article (Kellaghan, MacNamara & Neuman, 1969) looked at the proportions of 11-year olds whose teachers deemed them to be making unsatisfactory progress in English, mathematics and Irish, and compared overall ratings of progress with scores on a standardised test of verbal reasoning. Twenty-five percent of children were deemed by the teachers to be making 'unsatisfactory' progress, with more children having difficulty in arithmetic and Irish than in English. The correlation between teacher ratings of overall progress (across subjects)

and verbal reasoning was 0.49. Girls were no more likely than boys to be viewed as not making satisfactory progress.

The second study in this cluster, by Airasian, Kellaghan and Madaus (1977), did not include data from standardised tests, but focused instead on the stability of teacher ratings of Second and Fifth class pupils' personal characteristics at the beginning and again at the end of the school year. Across the four data sets, two factors stood out: a classroom behaviour factor, and a social behaviour factor, which, together, accounted for over 70% of the variance in ratings. Ratings were found to be quite stable, with congruence ratings between factor solutions in excess of .96 across grade levels. However, mean ratings at both the beginning and the end of the school year were lower at Fifth class than at Second, while variances for social characteristics were lower than for classroom behaviour characteristics at both class levels. The authors concluded that, since teacher ratings of children's personal characteristics were linked to their scholastic performance and their general development, 'the role and importance of teachers' perceptions in the teaching learning process' were underlined (p. 83).

The third study, by Kellaghan and Fontes (1989), took the investigation of links between teacher judgements and test scores a step further by seeking to identify bias in teacher judgements and results on a standardised test of English reading used for the purpose of identifying children with literacy difficulties. Students in Sixth class were identified as having literacy difficulties by teachers only (11% of pupils), by a standardised test only (the lowest 11%) and by both teacher and test (again 11%). Pupils were also assessed on a range of variables that might bias either the teacher or the test in identifying them as having difficulties. These included participation in class, behaviour in school, attention span/concentration, persistence in school and attendance. Pupils identified by both teacher and test, compared with one of these, were found to have relatively low achievement-orientated behaviour (i.e., lower classroom-behaviour ratings) and to be relatively older (perhaps due to grade retention), with such pupils also more likely to come from a low-SES background and to be boys. On the other hand, students performing poorly on the standardised test but not nominated by teachers, or by a combination of teacher and test, rated lower in sociability (social behaviour) than students in the other groups. The authors noted that teachers have access to a broader range of information on which to base their judgements, compared with test results.

Taken together, these articles highlight associations between standardised tests and a range of pupil characteristics as rated by teachers, as well as the

complexity of the relationships between standardised test scores, pupil characteristics, and teacher judgements, at a time when access to the results of ability and achievement tests was new in schools in Ireland.

INSTRUCTIONAL PRACTICES AND CLASSROOM ORGANISATION

Five articles by Tom Kellaghan and his collaborators on classroom organisation and instructional practices in primary schools reflect Tom's interest in drawing on international research to examine and ultimately improve teaching and learning in classroom settings, though he was also keenly aware of gaps in the quality of such research. The first (Kellaghan, 1967a), which appeared in the first issue of the *IJE*, looked at non-promotion of slow learners (a practice that was widespread in Irish schools at the time), ability grouping (streaming), within-class grouping, individualised instruction and non-graded schools. In discussing individualised instruction, where the curriculum is modified to suit the child's needs, Tom noted the potential of technology to improve learning outcomes, though he also observed that 'we know too little about how human learning takes place to use computers really effectively' (p. 27). This observation is remarkable given that, some 50 years later, the use of technology by teachers and pupils in Irish primary (and post-primary) schools is still very much evolving.

The second article, a survey with Liam Gorman on the availability of teaching aids in primary schools in the mid 1960s (Kellaghan & Gorman, 1968) drew attention to shortages of libraries and books and of resources for mathematics (only 16% of schools had any equipment for teaching the subject). It was argued that, since education is for life, pupils in schools should have access to technological resources, as well as opportunities to critically evaluate audio-visual documents. Importantly, the authors emphasised a need to train teachers to make effective use of new resources as they become available.

The third article, by Kellaghan (1969b), looked at the effects of individualised instruction, specifically the Scientific Research Associates (SRA) reading lab, on Fourth-class pupils' reading ability and interest in reading. Tom's understated conclusion was that: 'Like so many experiments designed to evaluate the value of materials or methods in teaching, this one produced no startling results' (p. 28). While pupils who followed the SRA individualised reading programme improved on mechanical aspects of reading

(speed and accuracy), there was no difference (compared to control groups) on higher-order skills (vocabulary, comprehension) or on attitudes to reading.

The fourth article (Kellaghan, 1974) is also based on an experimental study in which three groups in grades 3-6 were compared over a two-year period – pupils with learning difficulties (those with low performance on tests of reading, arithmetic and spelling) in full-time remedial classes, part-time remedial classes, and regular classes (the control group). While pupils in the full-time and part-time remedial groups outperformed pupils in the control group on reading and arithmetic after one year, overall differences were statistically significant only in the second year. Tom viewed the study as indicative of what might be done with a larger-scale intervention. The article points to his interest in the cost-effectiveness and value of educational interventions such as remedial education, which was in its infancy in Ireland at the time. This article and the previous one are unusual in that they are among a small number of studies in the *IJE*, and in the education field in Ireland more generally, that report on experimental research in classroom settings.

The final article (Fontes, Kellaghan & O'Brien, 1981) looked at relationships between teaching time, classroom organisation, verbal ability and reading achievement in English and Irish using a multivariate framework. Using stepwise regression, verbal reasoning scores were entered first, and these accounted for the largest proportions of variance in reading in both languages (47.1% for Irish reading, and 71.5% for English reading). Over and above verbal reasoning, instructional time allocated to reading was significant for Irish reading, but not for English reading, and classroom organisation explained a small but significant proportion of variance in performance in both languages. Tom and his colleagues acknowledged that home background factors had not been included in their analyses. The article is illustrative of the impact of both British and US research on how constructions such as classroom organisation were conceptualised at the time.

Taken together, these five articles relate to Tom's goal, as editor of the *IJE*, to serve teachers at all levels of education. They address practical issues of school and classroom organisation, and the effectiveness of the materials used to promote student learning in those settings. Combined with his work on teacher assessments of learner characteristics, they highlight his commitment to investigating, and ultimately improving, teaching and learning.

PUBLIC OPINION SURVEYS

In the early days of the *Irish Journal of Education*, the practice of consulting public opinion with a view to informing educational policy was well established in the US (in the annual Gallup polls) and in the UK (through the work of the Plowden Committee and other government-supported initiatives) but not in Ireland. An opportunity for Ireland to join in these developments was recognised by Tom Kellaghan in 1974 when the Educational Research Centre, in association with Irish Marketing Surveys Limited, conducted its first public opinion survey. This initiative was important in two main respects. First, it confirmed the Centre's success in attracting large-scale international funding (the survey was financed by grants from the Carnegie Corporation of New York, the National Institute of Education of the US government, the Russell Sage Foundation and the Spencer Foundation). Second, it provided the first opportunity for a nationally representative sample of around 1,000 adults (aged from 16 to 69 years) in the Republic of Ireland to have their say about many aspects of education, including controversial ones. Some 30 years later, in 2004, the Centre was involved in a second survey of the Irish public's perceptions of educational issues. This time the survey was commissioned by the Department of Education and Science and administered by Millward Brown IMS. It was instituted by Noel Dempsey T.D., the then Minister for Education and Science, as part of a national consultative process called Your Education System (YES) to 'provide all involved and interested in education with the opportunity to contribute to the development of a vision of education for the future' (Kellaghan & McGee, 2005, p.1; see also Kellaghan, McGee, Millar & Perkins, 2004).

Drawing a nationally representative sample was the main methodological challenge in both surveys. The sample had to be designed to facilitate analysis of data for the sample as a whole and separately for the constituent subgroups. In the first survey, the subgroups of interest were parents and non-parents, urban and rural dwellers and respondents of various socio-economic and educational levels. In the second survey, the 1,500 or so adults of 15+ years who took part were further classified by age group and gender and by region (Dublin, the rest of Leinster, Munster, and Connaught/Ulster) instead of the urban/rural classification that had been used in the first survey. A sizeable amount of data was collected in both surveys using a personal interview schedule developed at the Centre. Four articles on the 1974 survey that were co-authored by Tom (all with George F. Madaus, Patricia J. Fontes and Peter

W. Airasian) were published in the *IJE* between 1979 and 1983. Each article was devoted to a particular area of investigation: the goals and adequacy of education (Madaus et al., 1979); school examinations (Fontes et al., 1980); innovations in education (Kellaghan et al., 1981); and intelligence and its measurement (Fontes et al., 1983). Two further articles in the IJE were co-authored by Tom (both with Michael Daly) following the 2004 survey: 'Opinions of the Irish public on the goals of primary education' (Kellaghan & Daly, 2005) and 'Opinions of the Irish public on the availability of information about schools' (Kellaghan & Daly, 2010).

The opinion surveys were seen not only as an instrument of democracy but also as a means of providing feedback about the public's tolerance for change in education – particularly at a time when many changes had been introduced to the system and others were being considered. For example, in the 1981 Innovations in education article based on the earlier survey, it was reported that majorities of respondents were supportive of the raising of the school leaving age to 15 years (93%), the provision of sex education in schools (76%) and the abolition of corporal punishment (58%), but that only 39% were in favour of the closing of small schools. Knowing that there was broad public support for much of what schools were doing and attempting to do was, no doubt, reassuring for education authorities at the time. There was some divergence of opinion as well, though, particularly in the case of the place of the Irish language in schools and in the implementation of policies of equality of educational opportunity. Survey respondents who deviated most from other subgroups in their opinions were those from the more educated and higher socio-economic groups. Though more tuned in to proposed changes and to educational issues generally, they also tended to be more dissatisfied with education goals and the emphasis placed on them. Far from overlooking these voices of dissension however, the opinions of the minorities were reported in the findings along with the majority viewpoints.

SOME HALLMARKS OF SCHOLARSHIP

Having considered several research themes associated with the work of Tom Kellaghan in the *Irish Journal of Education*, and bearing in mind that this work constitutes a relatively small segment of his publications, we can now identify some of the consistent features of his contribution. Two questions seem particularly relevant to this task. First, we might ask: what mattered in this body of work, above and beyond the findings that it produced? And, second,

what kinds of values informed its development and progression? Reviewing the articles in light of these questions points towards a number of principles or characteristics which no doubt also feature in the greater body of his work. There are possibly others but the ones that can be consistently identified from this review are:

1. sensitivity to the requirements of policy makers;
2. commitment to transparency;
3. integrity in reporting findings;
4. discernment in test administration and the use of test data;
5. making the most of available resources; and
6. concern for the disadvantaged.

We comment further on each of these six characteristics or principles in this section.

Sensitivity to the Requirements of Policymakers

A consideration that increasingly became important in the research activities of the Centre, the needs of policy-makers for information about aspects of educational provision, has been an on-going priority but, in the context of the present review, perhaps received the greatest emphasis in all of the work on assessment and examinations and also in the studies of educational participation. The timing of these latter studies mattered particularly following a period of extensive change in educational policy and provision in Ireland; moreover, the high costs associated with this kind of research were avoided by using data that already existed. The interests of policymakers were also well served by the public opinion surveys which gave recognition to the importance of consulting the public as a basis for sound policy development, particularly when system changes were being proposed.

Commitment to Transparency

A consistent feature of how studies were reported is the detailed account of all aspects of the research design. Readers were informed about what measures were used, and if relevant, how and when they were used and with whom. The precise questions asked of respondents were indicated along with all of the available response options. Where possibilities for ambiguity existed, such as in the meaning of key terms or concepts, readers had access not only to the definition that was actually used in a given study but also to a range of possible other meanings that could be attached to the term or concept of interest. This

dedication to clarity and transparency featured particularly in some of the work on educational disadvantage. More generally, though, it is evident in the overview of policy development often included in the introduction to articles, so that readers might have some appreciation of the historical context in which the research had been conducted and its relevance or potential value to the present.

Integrity in Reporting Findings

In addition to promoting transparency in research methods, it was standard practice to report and explain findings with reference to any limitations in the data or research design. Integrity in the reporting of findings is perhaps most valuable when the results of studies are not expected or easily explained. In Archer and Kellaghan's (1975) home intervention study, for example, no significant differences were found between the disadvantaged and control groups and so the value of the intervention might have been called into question (why, it might be asked, should tax payers spend money on something that makes little or no difference?). However, the findings were reported and the reasons for the absence of differences explored. This was important if the prospects for similar interventions were not to be put at risk. In other words, it was understood that research findings, particularly from a single study, should not always dictate policy and that researchers need to be realistic and open about the limits of their findings. Unusually, no explanations were offered for the findings reported in the study of gender differences in the scholastic self-concepts of primary pupils (Kellaghan & Fontes, 1988). Even without explanations, however, the study was published, presumably because it had contributed something to knowledge about how girls and boys differ in how they see themselves at the end of primary school.

Discernment in Test Administration and the Use of Test Data

Assessment and how it can be used to support the planning and maintenance of educational systems, and for the benefit of individuals, was a major aspect of Tom Kellaghan's overall contribution to educational research. In his *IJE* publications, tests were used to provide information on the progress of large numbers of students in school, to highlight areas of weakness (e.g., language development in children from disadvantaged backgrounds) and to identify those who might benefit from additional support (including children with high verbal reasoning scores from families with limited means). Equally, though, tests were critically examined and recommended for further use or not

depending on the results of analyses. The important role of teachers in assessing students was also acknowledged in addition to the advantages associated with testing.

Making the Most of Available Resources

A number of *IJE* articles were based on studies with the same data source: the sample of over 2,000 11-year olds who had taken part in the standardisation of a verbal reasoning test in 1967. Follow-up teacher questionnaires allowed further exploitation of this large data set in ways other than the one it was mainly intended for. So, in addition to the test scores of children in the sample, valuable additional information was subsequently obtained on the post-primary schools the children went to, on the background characteristics of those with high verbal ability and on the cognitive and personality factors associated with class ranking or placement. Secondary analyses of existing data sets provided further opportunities to examine issues that might not have received much attention in the main reports of research findings (as exemplified in the article on gender and self-concept, which drew on data from the effects of standardised testing study). Resources other than data were also used economically and creatively, the possibility to do so being recognised because of extensive knowledge of the international literature. For example, research methodologies such as the cross-lagged panel analysis were 'borrowed', experimented with, and applied to data collected in Ireland. Similarly, concepts, including that of 'cumulative deficit' originating from research conducted in the US were used to explain and support research findings in Ireland and to compare these findings with those obtained in the 'donor' country. In this way, knowledge was enhanced and exchanged across national boundaries.

Concern for the Disadvantaged

Tom Kellaghan had a long-standing preoccupation with the needs of children from disadvantaged backgrounds and with the potential for responding to those needs from within the education system. Several aspects of the problem were considered in the *IJE* including attempts to define disadvantage, to measure its effects and extent and to understand the characteristics of those whose opportunities were limited as a consequence of disadvantage. This body of work, which had its origins in the evaluation of the Rutland Street preschool project – the first of its kind in Europe (Kellaghan, 1977) – and later found expression in initiatives such as the Home-School-

Community Liaison scheme (Ryan, 1999), the Early Start preschool programme (Lewis, Shortt & Archer, 2011) and the Breaking the Cycle scheme (Weir, Milis & Ryan, 2002a; 2002b), no doubt laid the foundations for the current school-based interventions dealing with disadvantage that we now refer to as DEIS, Delivering Equality in Schools (DES, 2017; Kavanagh & Weir, 2018). In addition to the opportunities and material benefits gained by all those directly involved, others can be inspired by the outcomes of this work which clearly show what can be achieved by careful and sustained attention to issues that matter.

CONCLUDING COMMENTS

We may conclude by simply acknowledging all that can be learned from the different aspects of Tom Kellaghan's scholarship in the *Irish Journal of Education* and from the underlying principles and values that informed his contribution. Reflecting his many and varied research interests, the journal he established became an important publication for the Educational Research Centre and remains a valuable educational research resource not only because of its role in the dissemination of findings but also because of the information it holds on national policy and the enduring relevance of many of the themes and issues identified through its body of articles. In many of the articles authored and co-authored by Tom Kellaghan, he drew attention to relevant educational policies, placed the development of such policies in a historical context, and examined their impact using empirical evidence. The international focus of the *IJE* was equally important. While the data were collected in Ireland, the research was reported so that it might be relevant and/or of interest to more than an Irish readership. Long before the introduction of large-scale international studies, comparisons were drawn with other countries, not only to explain any unique features of the Irish educational system but also to identify similarities with others. And so from a relatively small educational research base in Dublin, Tom Kellaghan, through the *IJE*, brought research that was carried out in Ireland to the attention of a worldwide network of teachers, students, educational researchers and policymakers.

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