

Teaching Across The Divide

Quantitative Research – On-line Survey Interim Review

Determining Sample Size

The survey was to be open to any teacher employed in NI in either Primary or Post Primary sectors – for a variety of reasons which have been more fully explained elsewhere those teaching in Nursery and Special schools were excluded from the population under investigation.

All teachers wishing to be employed in NI are required to register with the General Teaching Council (GTCNI) – the most recent statistics available from GTCNI (Digest of Statistics 2014¹) state that there are 26,689 teachers in NI. This figure also includes prospective teachers (i.e. those still in ITE) and supply teachers (who may or may not have any consistent employment).

More up to date figures are available through the DE census – 2015-16 (updated on 23rd November 2016).² These show that there are 18,571 full-time teaching posts in NI schools; a number of these are part-time. DE records that a total of 19,835 individual teachers are employed in NI. Of these 212 are located in nursery schools and 848 in Special schools; these teachers have been excluded from the research. The total population to be surveyed is therefore 18,775.

Whilst it is desirable to ensure that as many teachers as possible complete the survey it is unrealistic to expect a 100% return. Indeed, research into the completion of on-line surveys indicates that a 5% return may be regarded as the best that can be hoped for – in this case this relates to 989 responses.

In order to ensure that the reliability of results obtained from the sample surveyed will stand up to empirical scrutiny a binomial calculation is required:

$$1 - C = \sum_{i=0}^f \binom{n}{i} (1 - R)^i R^{n-i}$$

- C = test confidence level (i.e. the accuracy of that which is reported)
- R = reliability to be demonstrated (i.e. the margin of error that is allowed for)
- n = test sample size

In order to be able to claim for a confidence level of 99% for the resulting data with margin of error of 4% the required sample size would be 982. A 95% confidence level and a 3% margin of error would increase the sample size to 1,010. Alternatively, were the survey uptake to be less than hoped for, by

¹ http://www.gtcni.org.uk//publications/uploads/document/Digest_Statistics_2014.pdf

² <https://www.education-ni.gov.uk/sites/default/files/publications/education/Teacher%20Numbers%20and%20PTR%202015.16%20Statistical%20Bulletin%20-%20revised%20Nov%2016.PDF>

increasing the margin of error to 5% for the 99% confidence level and 4% for the 95% confidence level then the sample sizes would be reduced to 641 and 582 respectively³.

Identifying Relevant Variables

The teaching workforce in NI is clearly not an homogenous body – indeed, this variety and the impact of the divisions between the sectors in which they are employed lies at the very heart of this research. It is therefore vital that key variables are identified and that the final composition of the sample surveyed reflects these in so-far as is possible.

- Religion – although, prior to this research, it has been impossible to determine exactly how many Protestant and how many Catholic teachers are employed across the sectors in NI it is important to obtain a balance of respondents
- Gender – the teaching workforce in NI is predominantly female: GTCNI and DE figures indicate that women teachers consistently outnumber men teachers in an approximate proportion of 3:1 (male teachers are however better represented in more prestigious roles - principal and senior teachers, and in Grammar schools)
- Location – between 1973 and 2015 education in NI was administered through five geographically defined Education and Library Boards (ELBs). Although these were officially merged into one body (Education and Skills Authority ESA) in April 2015, local management and administration of education still largely reflects the boundaries between these regions. There is an approximately equivalency in the deployment of teachers across the old ELB areas – with between 3,800 and 4,100 teachers employed in each of the North-Eastern, South-Eastern, Southern, Western and Belfast regions⁴.
- Primary/Post Primary – around 8,000 teachers are employed in Primary schools and over 9,000 in Post Primary
- Sector: Maintained/Controlled/Voluntary – approximately 16% of teachers are employed in Voluntary Grammar schools, a further 39% in Controlled schools, 36% in Maintained schools and 7% in the Integrated sector.

Survey Circulation

In an ideal world a researcher would be able to contact all teachers through their email addresses – these would be freely available in the public realm. However, teachers' concerns about data security, personal protection, possible flaming from parents and pupils and work-load mean that this is not the case. It was only possible to access schools' generic "info@..." email addresses in the public realm (through DE). Through these, information on the survey could be circulated to every single relevant school through email. This mechanism did however mean that the communication had probably to pass through two gate-keepers (the school secretary in the first instance and the school principal in the second) before reaching the teacher - who would then be able to decide whether to complete the survey or not.

³ Calculated using Qualtrics Sample Size calculator <https://www.qualtrics.com/blog/calculating-sample-size/>

⁴ <https://www.education-ni.gov.uk/sites/default/files/publications/education/Teacher%20Numbers%20and%20PTR%202015.16%20Statistical%20Bulletin%20-%20revised%20Nov%202016.PDF>

During piloting of the survey one respondent pointed out that, in spite of the fact that the purpose of the research was interesting and relevant, without the encouragement of a third party other priorities would supersede the completion of the survey and it was highly unlikely that they would have gotten around to completing it.

There were thus two key challenges:

- Ensuring that the survey reached as many possible respondents as possible.
- AND
- Ensuring that as many respondents as possible actually completed the survey.

A range of methods has been employed to ensure both circulation and completion. An iterative, strategic approach was employed. The period of data collection through the survey has been broken into three 12-day blocks, each with associated actions to endeavour to ensure both maximum completion rates and a balance of responses across the variables defined above:

FIG.1 STRATEGIC ACTION PLAN

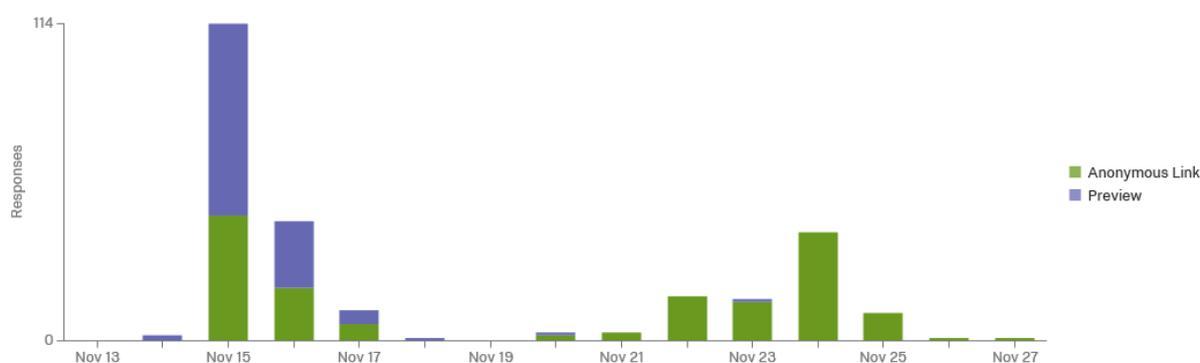
Phase	Actions	Target/Progress
#1 15 th – 27 th November	Circulate link to all relevant schools Commence social media campaign – use existing contacts Encourage survey promotion through Unions etc Attend (present at) events where teachers congregate	Target: 300 surveys completed 27 th Nov. 266 surveys completed and returned – 6 in progress APTIS conference and SELF conference
#2 28 th November – 10 th December	Review profile of respondents and identify gaps Re-send email link to all schools with reminder Target phone-calls to schools in under-represented categories Intensify social media campaign Revisit Unions etc	Target: 600 surveys completed
#3 11 th – 23 rd December	Review profile of respondents and identify gaps - again Re-send link to key schools in under-represented categories Use contacts to identify other contacts in key groups	Target: 900 surveys completed

Phase #1: Progress Report

The on-line survey was launched as had been anticipated (and in line with identified best practice) with an email to all schools in NI on Tuesday 15th November – on Friday 11th I had made a presentation on my research to 36 principals of Integrated schools at the APTIS conference.

Initial response rates were encouraging. 114 surveys were completed on the first day. The pattern tailed off quickly and on Friday 18th November only one survey was completed. On Monday 21st November I commenced use of social media by sending a targeted email to existing contacts. Over the next few days the rates of response showed a slight increase. I attended the SELF conference on Thursday 24th November where I was able to make contact with many teachers and invite them face-to-face to complete the survey. This proved to be a very effective strategy; all of those who were asked to complete the survey on-the-spot did so. In this way a further 50 responses were collected. The conference also facilitated networking and engagement with principals. It is expected that these contacts will prove crucial in the Second Phase of data collection.

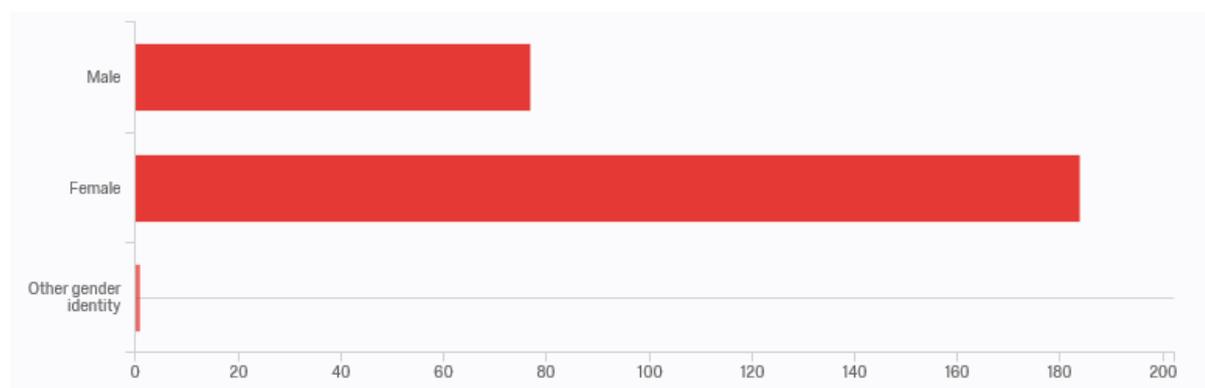
FIG. 2 SURVEY COMPLETION RATE: PHASE 1



The responses received to date were also reviewed with regard to the variables identified above in order to detect any unintentional bias during this first phase and ensure targeting to redress this in Phase 2.

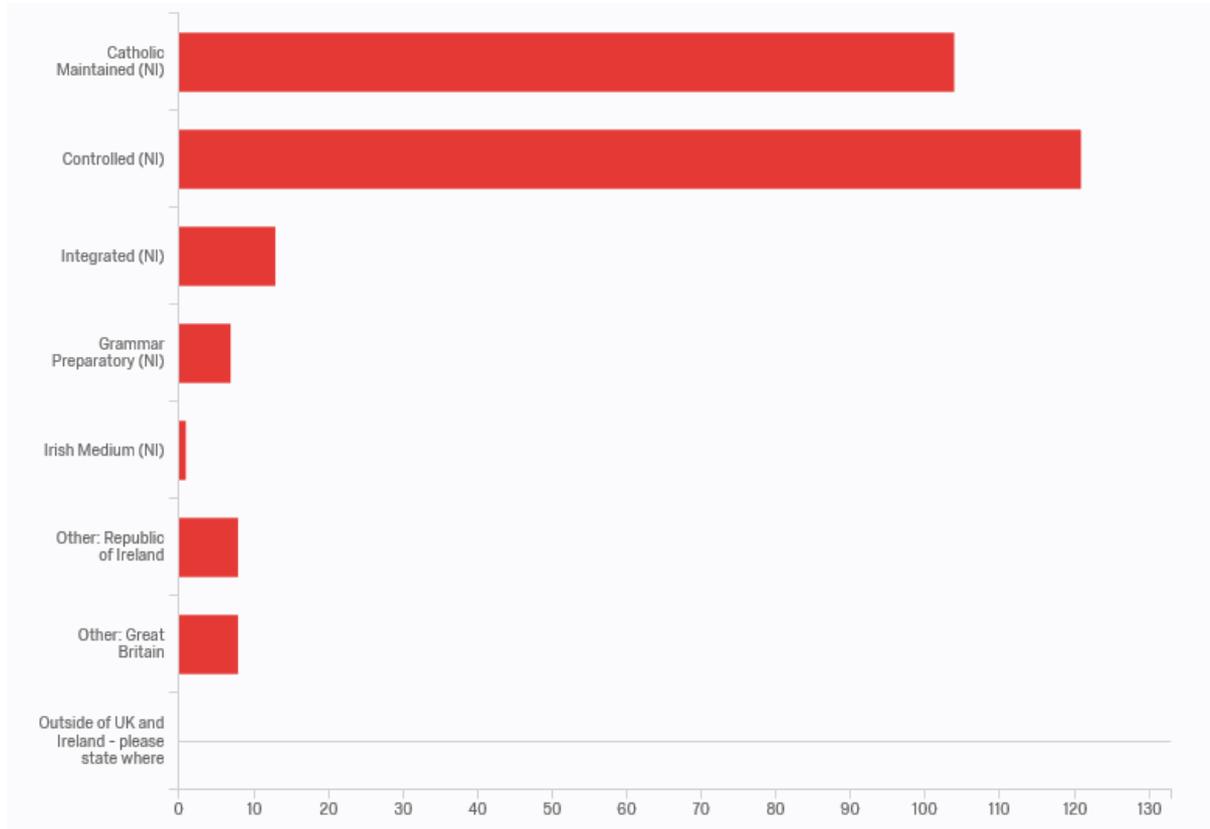
The proportion of respondents by **gender** was, on the whole, reflective of their representation in the teaching workforce – men were however slightly overrepresented, possibly as a result of the destination of the original survey email to Principals.

FIG. 3 RESPONSES BY GENDER



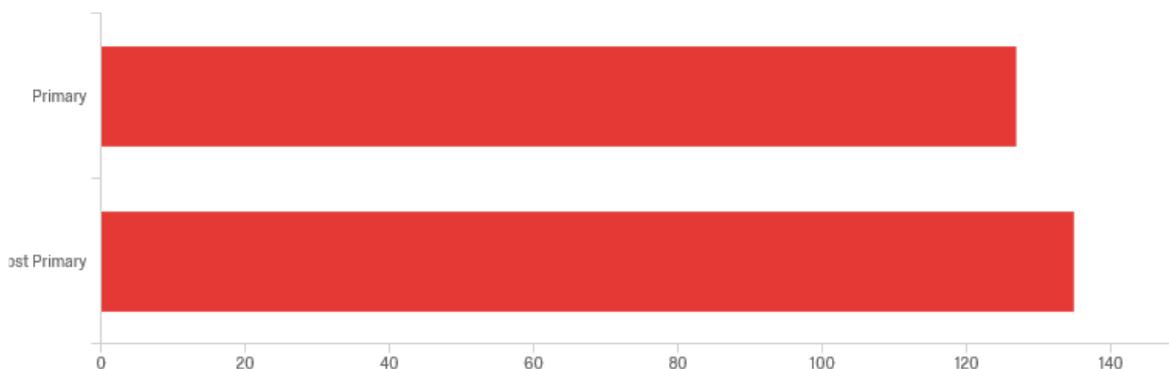
School attended has been used in the survey as the determinant of **religious/community identity**. The balance between response rates from the two dominant communities is consistent with what would be required.

FIG 4. RESPONSES BY COMMUNITY IDENTITY



The distribution of respondents so far between **Primary and Post Primary** is consistent with the relative employment patterns for these two types of school.

FIG. 5. RESPONSES BY SCHOOL TYPE



Given my presentation at the APTIS (Integrated Education) conference and my use of existing contacts (predominantly in the South Eastern region) during the initial phase of the survey it is perhaps unsurprising that a degree of bias is evident with regard to the variables of **location** and **school sector**.

FIG. 3. RESPONSES BY LOCATION: EA GEOGRAPHICAL REGION

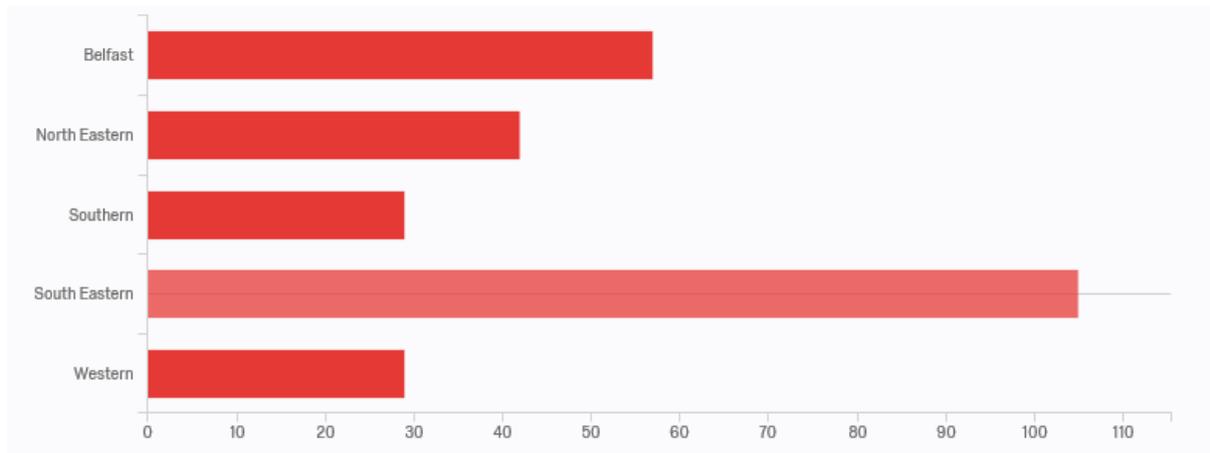
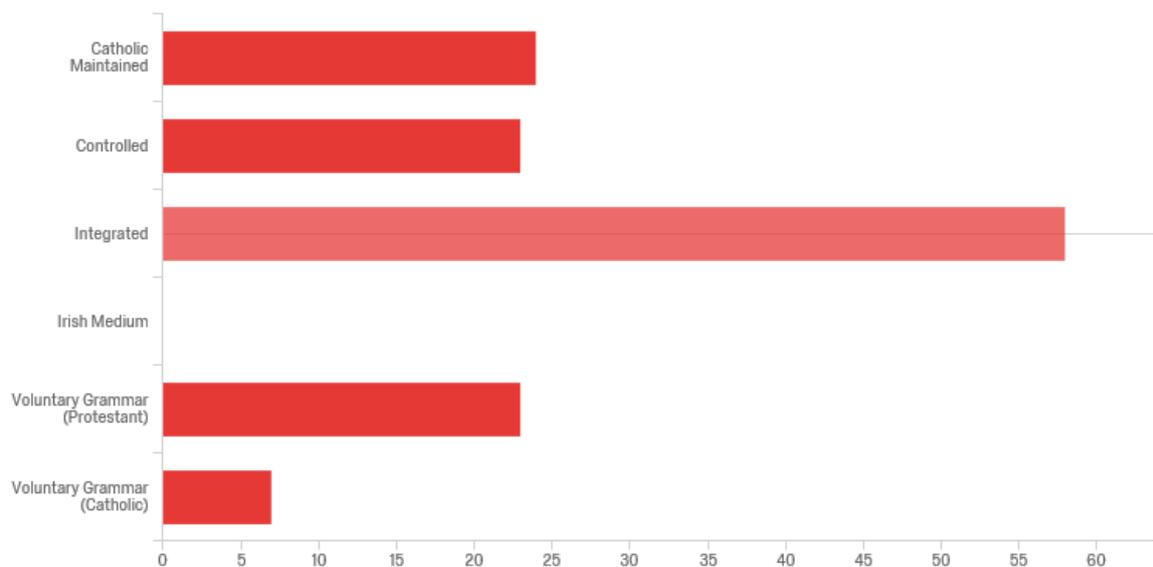


FIG. 4. RESPONSES BY SCHOOL SECTOR



Phase #2: Applying the Lessons

The strategies used so far have proved relatively successful - repetition of the same tactics is however liable to provide diminishing returns. A number of lessons have been learned:

- A good balance of the two dominant communities has been achieved so far.
- A good balance between primary and post-primary has been achieved so far.
- Response rates have been stronger in the South East than in the other 4 EA regions.
- Response rates have been disproportionately high from the Integrated Sector.
- Response rates from men have been slightly higher than might have been expected.
- Personal contact from the researcher appears to substantially increase response rates.

The second phase of data collection will require both further generic promotion of the survey and the active targeting of key sectors and regions to ensure that the necessary balance with regard to variables is obtained.

Locations in decreasing order of priority:

- Western
- Southern
- North-Eastern
- Belfast
- South Eastern

Sectors in decreasing order of priority:

- Controlled
- Maintained
- Catholic Voluntary Grammar
- Protestant voluntary grammar
- Integrated

Contact had been made with the principals of a number of colleges during the SELF conference including:

Cross And Passion and Ballycastle HS (post primary); St Mary's College, Derry; Seaview PS and St Patricks PS; Bellaghy PS and St John Bosco PS; Dalriada School, Ballymoney HS and Our Lady of Lourdes

These schools are all located in regions that have so far been underrepresented in the data collected and come from the sectors from which responses are currently lacking. In informal conversation principals from these schools had indicated interest in the research. Using the personal contact that has now been established I will contact these schools directly to request that the Principal actively encourage all teaching staff to complete the survey.

This direct approach will be supplemented with a re-issue of the survey to all schools – whilst it is not expected that this will produce a sizeable increase in the number returning the survey it may serve as a reminder to some for whom it had 'slipped off the radar' or encourage principals to circulate it more widely within the school. Direct contact will be made again with key players in the local teaching unions to request that the survey is promoted through their social media and, potentially to identify events (e.g. conferences, training events) where large numbers of teachers are present and could be encouraged to complete the survey – particularly UTU and INTO whose membership profile is drawn predominantly from the two currently underrepresented sectors.

A secondary purpose of the survey has been to identify potential interviewees for the qualitative component of the research. Through the on-line survey 53 respondents have so far offered themselves so far to be interviewed.