

Creating an indicator of the subject background of the teacher

By Dr Rebecca Allen, December 2016

Each year, schools should submit both a curriculum and qualification module as part of their School Workforce Census that tells us the qualifications teachers have and what they are teaching. However, this part of the data is very messy, meaning:

- Lots of schools provide no returns and others provide incomplete returns
- For any teacher we often have incomplete returns, so we might know their undergraduate degree subject but not their PGCE subject
- We could have as many as six reports of qualifications for a teacher between 2010 and 2015, inclusive. If these reports differ substantially then it is more likely due to recording error than due to the acquisition of qualifications during this time

We therefore currently only use this data to form a best guess of the subject background of the teacher, rather than explore the acquisition of new qualifications or changes in subjects taught over this period.

Here we describe how we currently generate fields of subject background to show the general subject background, academic degree background and teaching qualification background and curriculum subject of the teacher.

This protocol is a work-in-progress. We will, no doubt, revise it in the future.

Protocol

1. We start by stacking up the qualification files from the six years of census from 2010 to 2015. These list every qualification recorded for a teacher with up to two subject codes (as JACS principal subject codes) per qualification.
2. We take these JACS principal subject codes and turn them into subject mappings. The subject mappings are pretty high level and each JACS principal subject codes can have up to 3 subjects. This means that, in theory, a single qualification could have six subject mapping (although almost none do).
3. We categorise the types of qualification as undergraduate degree (non-education), undergraduate degree (education), masters, doctorate or teacher training qualification. Note that for a quite a lot the type of qualification isn't known so we class as 'not known'.
4. In the cases where someone ends up with multiple qualifications, we want to be able to prioritise them for the fields we describe below. We do this as follows:
 - a. Where we are looking at all qualifications we favour undergraduate subjects, followed by masters, doctorate, teacher training qualification and finally those 'not known'.
 - b. Within these qualification groupings described in 4a we prioritise those with multiple records because they have been recorded in more than one School Workforce Census.

- c. If there are multiple subjects within a qualification grouping with equal number of records we use a tie-breaker that favours the qualifications as follows: sciences, English, history, maths, geography, languages, RS, then everything else.
5. For the curriculum data we map the information on subject taught onto the same set of subjects as we have for qualifications above. We simply count the number of hours taught in a subject by each teachers over the six years of School Workforce Census.

Fields created

We create 14 fields as follows:

1. 1st subject, reading across all academic and teaching qualifications but prioritising academic subjects
2. 2nd subject, reading across all academic and teaching qualifications but prioritising academic subjects
3. 3rd subject, reading across all academic and teaching qualifications but prioritising academic subjects
4. 1st subject, reading across all academic qualifications only
5. 2nd subject, reading across all academic qualifications only
6. 3rd subject, reading across all academic qualifications only
7. 1st subject, reading across all teaching qualifications, i.e. undergraduate education programmes such as BEd and PGCE courses
8. 2nd subject, reading across all teaching qualifications, i.e. undergraduate education programmes such as BEd and PGCE courses
9. 3rd subject, reading across all teaching qualifications, i.e. undergraduate education programmes such as BEd and PGCE courses
10. An indicator for whether the teacher has any science (or engineering) academic degree
11. An indicator for whether the teacher has any maths academic degree
12. 1st subject taught in the curriculum module
13. 2nd subject taught in the curriculum module
14. 3rd subject taught in the curriculum module

A single indicator of subject background for senior leadership

For this analysis we want to know what subject each member of senior leadership team used to teach. We do this as follows:

1. We use the most frequent subject they are teaching in the curriculum module, if they are teaching at all (12 on the list above), ignoring subjects such as PSHE
2. If this is not available, we look in turn at:
 - a. Main subject taken for PGCE, BEd or other teaching qualification (7 on list above)
 - b. Main subject reported in academic qualifications (4 on list above)

This allows us to populate a subject background field for about two-thirds of senior leaders.