

How has my home area changed over time? Exploring a key geographical concept using on-line resources and fieldwork

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Abstract

This paper explores the use of Census data and maps to explore the development of an area over time. This work allows students to develop understanding of the key concept of change over time within a familiar environment. The recent availability of the detailed information from the 1911 Census and the provision of small area data in the 2011 Census has facilitated this use, along with access to large scale historic maps, via Scoilnet maps. ICT skills are developed in the desk-based aspects of the work along with fieldwork skills during the visits to the actual locations studied.

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Introduction

A resource which has recently become available to the public is the detailed returns for the 1911 Census of Population. Information about individuals, their homes and their lives is now accessible. There are also limited summary tables for individual streets and townlands. This material has, obviously, much relevance to the study of history, but it may also be used to develop students' understanding of key geographical concepts and values and in the development wide variety of skills. The 1911 Census data may be used in combination with maps, both historic and modern, and with data from the 2011 Census. A number of ways in which this may be undertaken are suggested here.

The work is heavily reliant on students having access to computer technology, and so may be challenging for some schools. However, access to computers is increasingly available both in school and in students' own homes. Suggestions are made for how some use may be made of the resource where access is limited, so that all students may explore these important resources and learn about change over time at least to a limited extent. Maynooth, Co. Kildare is used to illustrate the ideas, but these may easily be adapted for any other location in Ireland where there was settlement in the area prior to the 1911 Census.

Programme Relevance

One of the key concepts in both the Junior Certificate

[JC] and Leaving Certificate [LC] syllabi is change over time, making this work of obvious relevance. In the JC course description *Unit B3: Key idea v*) refers to change in settlement over time, referring specifically to 'appropriate towns', while in *Unit B4: Key idea i*) 'the growth of cities ... through the development of economic, administrative and social activities' should be studied and in *B4: vii*) it is required that local cases of urban renewal are explored (Education, n.d.). While these key ideas generally refer to cities, many of the aspects may be explored in the area local to the school, rather than in a distant (and less familiar) urban environment. At the time of writing the revised syllabus for the Junior Cycle Student Award [JCSA] has not been released, but there is no reason to suppose that change over time will cease to be relevant concept or that urban change will be dropped from the syllabus. Further, the use of local examples may well be an advantage if teacher-led assessment is implemented as proposed.

In the LC programme *Elective 5: Patterns and processes of human environment, Statement 1* focuses the study of how population characteristics change over time and space, and within the National setting, recommends study of 'Census material to show patterns of change' (p.28). *Statement 5.4* relates to development of settlements over time. Particularly relevant to the article is the exploration of how the function and services of urban centres can change over time' (Education & Skills, 2003, p.29).

The use of census and other data described in this article are also useful in the development of a wide number

the skills which are identified as objectives for both the JC and LC Geography courses and also those listed as 'Key Skills' in the new [JCSA] programme, as shown in Table 1.

The development of a Transition Year [TY] module would also develop understanding of all of the knowledge, concepts, skills identified here and would also facilitate the use of innovative methods of presentation and communication of the work, such as oral presentation, poster or documentary-style video, which is not currently possible for LC investigations. It would also be possible to allow students to select their own preferred method of reporting on their work without any issues relating to assessment of different modes of presentation, facilitating the possibility of appropriate assessment for different favoured learning styles or intelligences.

Using Maps to Learn about Change over Time

Before the students can understand the ideas of change it is, obviously, necessary for them to become familiar with what was in their location in the past. An effective way to do this is to examine the Ordnance Survey maps of the area, both the modern one and those from the

past. The Ordnance Survey of Ireland website enables this to be done. There are a number of maps available, plus several remote sensed images. These may be viewed separately or 'toggled' together, so that one is overlaid on the other. Using the slider it is then possible to adjust the transparency of the top layer, so that the lower one may be seen. The most useful old map for use is the 1:2500 series, which was produced between 1888-1913. This map may then be compared with the most recent one available and with the most recent remote sensed imagery. Similar maps are available via the Scoilnet maps website, but these cannot be accessed by the students. However, if students do not have access to computers, the Scoilnet maps site may be used by the teacher to show to the class. It is also a source of printable hard copies of the maps for use in class, as the OSi maps are copyrighted and so may not be printed or copied. Maps from Scoilnet are available for use by any school within the State and by teachers who are registered users.

Students of any age and ability would require a short demonstration of the OSi website features before they carry out research for themselves. The degree of structure and scaffolding provided for the students to enable them to carry out the work should be varied according to the level of the class. Ideally students would examine the maps and then decide what were the

Table 1: Skills potentially developed using historical and present day local information

| Current JC geography programme (Education,) | LC Geography programme (Education and Skills, 2003) | Revised Junior Cycle programme [Key skills] (Education and Skills, 2014) |
|--|---|---|
| Use and interpretation of information sources: figures, statistics, electronic | Information gathering: figures, statistics, ICT | Literacy |
| Presentation and communication of ideas: figures, statistics, written | Presentation and communication of ideas: figures, statistics, written | Numeracy |
| Collecting, recording, analysing, interpreting information | Investigative skills: using secondary sources of information | Managing information and thinking |
| Synthesising and evaluating information | Synthesise, analyse, interpret and evaluate information | Working with others |
| Social skills: working alone, in groups, teamwork, verbal communication | Social skills: working alone, in groups, teamwork, verbal communication | Communicating |

areas of interest for their study. However, particularly for younger students, this may prove a very difficult and time consuming task, so a degree of guidance / focus is likely to be necessary. An example student worksheet is shown as Figure 1 (also available for use in class on-line on the AGTI website). The questions used in this example are based on Maynooth and should, of course, be modified to suit use in other locations.

Following on from this on-line investigation it would be possible for students to visit the area examined and to map changes in the field forming, with follow-up work, a short project.

Using the Census of Population to Learn about Change over Time

The 'change over time' theme can be much further developed by using information from the 1911 Census and the 2011 Census. The 1911 Census is accessed via the National Archive website. The 1901 Census is also available here, but is not used in this work as there is more detail available in the later one. Information from more recent Censuses (including 2011) is available via the CSO website. While the questions are not, of course, identical a number of common themes may be found, such as age and gender of the population and some information about property.

The organization of the 1911 Census

In the 1911 Census each household was required to complete Form A). This was the basic household return, filled in and signed by the head of the household. There was one for each household in the country. The information sought was: name, age, sex, relationship to head of the household, religion, occupation, marital status, county or country of birth.

The census also recorded an individual's ability to read or write and ability to speak the Irish language, and whether deaf, dumb, blind, idiot, imbecile or lunatic. In this Census (and all of the others) DEDs (the equivalent of EDs in the modern Census) were surveyed by townland in rural areas and by street in towns. Within some DEDs there were both townlands in the more rural areas and also streets in the town itself. The original Form A's have been digitised and may be viewed on-line. However these are often quite hard to read and so they have been transcribed and may be read in a spreadsheet form.

This information was then used to produce a summary

abstract for each street or townland – *Form N: The Enumerator's Abstract*. This form provided details of the number of houses in a street or townland, and the number of occupants of each house, by sex. The form also shows the religious denominations present in each household.

Other forms available on line are:

- *Form B1: House and Building Return*
This form provided details of the houses and buildings in a townland/street, including what kind of building (private dwelling, factory, shop etc.), what class of building, how many families lived in each house, how many people lived in how many rooms, and name of head of household.
- *Form B2: Out-Offices and Farm-Steadings Return*
This form recorded extra buildings are attached to a dwelling, for example, stables, coach houses, cow houses, dairies, piggeries, barns etc. It gives an idea of the full extent of a person's property.

Investigating the 1911 Census

To facilitate use of this information for comparison with the present day area, it is first necessary to establish which streets were present in 1911 and are still there today. Students must then be allocated a particular street. It is probably best if students work in teams at this point as this will make the fieldwork which follows this desk work easier to manage. The degree of detail of the study should be adapted to suit the age/experience of the students. A simple study could focus on using the Form N, but others do provide further insights. While this is an image of the original record, it is quite easy to read and results are easy to transfer to a spreadsheet.

Possible work with this data would include:

- Religious affiliations [Form N]
- Occupations [Form N]
- Mean number of persons per room [Form B1]
- Use of buildings [Form B1]
- Activities and landuse [Form B2]

Using these tables students gain considerable insight into life in the early 20th Century, for example the amount of activities associated with agriculture which were found even in urban areas, such as fowl and calf houses or piggeries, or occupations which no longer exist.

Some of the buildings used for agricultural activity may have survived to the present day, but they are unlikely to

be still used for the same purpose.

Students should then be required to investigate the 1911 Census for information about a small area or street. This might be done without guidance, but the research is more likely to be productive if there is a framework provided for this, for example see Worksheet 2.

Each student could be asked to investigate a particular house or houses rather than all students looking at all of them. They could share their findings, possibly as short oral presentations or in a poster format.

Comparisons with the Present Day

When students are familiar with their area in the early 20th, they will be able to appreciate how it has changed over the intervening century. Comparisons should take two forms, field research and use of 2011 Census Small Area data.

Field research

Each team should carry out a survey of their area mapping the current land use. They may also be able to identify buildings which were present in 1911. Exact location of particular buildings in the 1911 census may be problematic as numbering is not always totally logical or even non-existent. However, general comparisons can be made and, in some cases, exact locations are possible – for example, the Garda Station in 2011 may be located in the same place as the RIC Barracks in 1911 and some businesses may have kept the landuse, for example public houses. Apart from mapping, the collection of images of both surviving buildings and changes which they consider to be of interest should be undertaken. If a map of the whole area is to be made and/ or students to combine results then it is best for a classification of landuse to be agreed rather than each student/team devising their own. An example of the type of work which might be carried out in the field is shown in Figure 3. The information gathered on land use may be presented graphically and comparisons made with their information gathered from the 1911 Census.

Census 2011

Further comparisons may be made by using the information from the 2011 Census, for which results are available at a variety of scales, ranging from the whole state to Small Areas [SAs] some of the same categories were identified on both censuses. 'Small

Areas' are areas of population comprising between 50 and 200 dwellings created by The National Institute of Regional and Spatial Analysis (NIRSA) on behalf of the Ordnance Survey Ireland (OSi) in consultation with CSO. Small Areas were designed as the lowest level of geography for the compilation of statistics in line with data protection and generally comprise either complete or part of townlands or neighbourhoods' (CSO, 2013). Unfortunately these small areas do not conform to the townland/streets of the earlier censuses, but it would be possible to get teams to combine their findings from the 1911 Census to produce summary data based on the SA boundaries. For example, the SA which includes the north side of Main Street Maynooth also includes at least five other streets. The information available for the 2011 Census may be downloaded from the CSO website as an Excel file, making analysis of this data relatively straightforward (see Waddington, 2013 for guidance on how this data is accessed). It will be necessary to teach students how to access the data for themselves or to download it for them. Some guidance will be needed for all students, but many do enjoy the opportunity to 'browse' for themselves, particularly their own SA, in addition to the one required for this comparison with the 1911 materials. The information from the 1911 Census requires considerably more work to make the data suitable for analysis, but once this has been done, comparisons may be made relatively easily and the results presented as graphs and tables. For many students, particularly younger ones, this is likely to involve the teacher carrying out some of the transfer from Census to Excel. While this may be somewhat time consuming, once done it may be re-used for any future work.

Table 2: Statistics available in both 1911 and 2011 Censuses

| Census variable* |
|---|
| Sex, age and marital status |
| Migration [place of birth] |
| Religion |
| Irish language |
| Families [some aspects] |
| Rooms in houses and number of residents |
| Occupancy status of dwellings |
| Social Class and Socio-Economic Group |
| Occupation |
| Industries |

- * *Themes in 2011 Census do not correspond exactly to the headings in the 1911 Census but are sufficiently similar to make these comparisons possible.*

As with the use of the 1911 Census, students can be 'let loose' to investigate for themselves, but normally some type of framework will lead to more focused and productive work. An example of a possible format for this is provided in Figure 4. Questions will need to be modified to suit a school's local area and student experience.

Conclusions

Both the census data and maps, both current and historic, provide a huge resource for use in classrooms. The possibility of working with data which is relevant to students' own locality is often a great encouragement for students to engage with the work. There are many more possible ways to use this material. Those suggested here are just a 'taster' to encourage people to explore further.

References

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Scoilnet Maps (nd) *OSi Maps*, Dublin, Scoilnet. Available at <http://maps.scoilnet.ie/> [accessed 25/2/16]

N.B. This access is only available to those registered to use the site. Details of registration are provided on the site.

Waddington, S.B. (2013) Working with the 2011 Irish Census of Population Figures, *Geographical Viewpoint*, 41, 40-47.

How has Maynooth changed over time?

1. Finding the maps for Maynooth on the OSI website – this link is directly to the Mapviewer home page - <http://maps.osi.ie/publicviewer/#V1,591271,743300,0>

a. Click on <Historic 25'> in the <Preview Map Series> panel and an 'old-style' map will replace the original map.

b. Click on <Pan> in the <menu> box

c. Pan [i.e. move the small red +] by holding down the left hand mouse button to the location in which you are interested – Maynooth.

d. Click on the <zoom in> button + and click on the map or use the slider [on the left side of Figure 1] to move to larger scale – you need to do this until the Scale is shown in the <Status> panel shows 1:2000

You may need to move the + [i.e. pan] to adjust the location as you move to a larger scale.

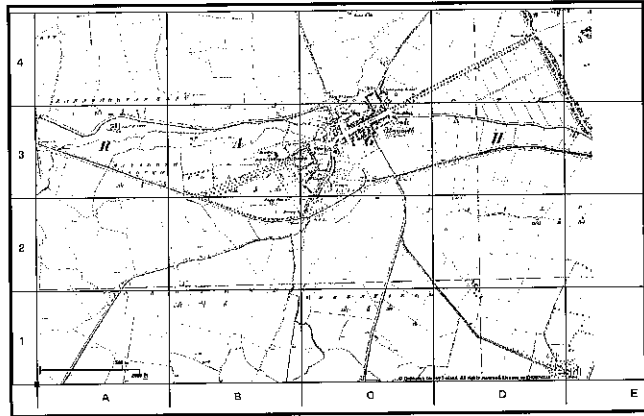
e. Use the pan function to explore the area around Maynooth.

a) Farming activities, e.g. farms and farm buildings,
b) Service activities, e.g. religious, administrative, medical, education and financial

c) Industrial activities, e.g. factories, mills and quarries

d) Commercial, e.g. hotel, bank

! Remember to use a key to show the type of activity in each place



Map 1: Maynooth at the start of the twentieth century

3. Now click on <Street Map> . This will show you an up-to-date map of Maynooth. Compare what you can see on this up-to-date map with what is shown on the older one from about 1900. Then answer the questions below.

! To make comparisons easier use the <Overlay> toggle [on the lower right of the screen, below the list of maps] you will be able to see one map on top of the other.

a. Shade the area of the 2014 town on your old map copy.

! Make sure that you shade neatly and that you include this shading in your key.

b. Use the table below to describe the differences and similarities between the two maps, transport has been completed for you as an example.



Figure 1: The 25' map and the functions of Mapviewer

Source OSI, 2014

2. Mark the location of each of the following on Map 1 – shown below here

| | Early 20th Century | Today |
|--|---|---|
| Size of the built up area | | |
| Transport links – roads, railways, canals | Canal and railway to south of town. Main roads E to W – Dublin Rd, Kilcock Road, through town centre. | Canal and railway to south of town, M4 now also to south of town. Dublin Rd and Kilcock Rd remain, but no longer main E-W route – M4 bypasses town. |
| Service activities | | |
| Farming activities | | |
| Farming activities | | |

Worksheet 2: Working with the 1911 Census of Population

Our team's street is:.....

Finding the census information for your street

1. Go to the 1911 Census Website - <http://www.census.nationalarchives.ie/> - and click on <Search Census>.
2. Examine each of the forms below and then answer the question[s].

Form A: Household Return Form

This is the basic household return, filled in and signed by the head of the household. There is one for each household in the country. The information sought was: name, age, sex, relationship to head of the household, religion, occupation, marital status, county or country of birth.

The census also records an individual's ability to read or write and ability to speak the Irish language, and whether deaf, dumb, blind, idiot, imbecile or lunatic.

- a) Click on the household you have been asked to investigate.
- b) Write a brief description of that household.

Form N: Enumerator's Abstract

This form gives details of the number of houses in a street or townland, and the number of occupants of each house, broken down by sex. The form also tells you the religious denominations present in each household

- c) Look at the Enumerator's Abstract for your street.
- d) Describe the religious make-up of your street. Are there any mixed-religion households?

Form B1: House and Building Return

This form provides details of the houses and buildings in a townland/street, including what kind of building (private dwelling, factory, shop etc.), what class of building, how many families lived in each house, how many people lived in how many rooms, and name of head of household. This form is very useful for the examination of urban overcrowding.

- e) How many houses are there in your street.
- f) How many contained more than one household or family.
- g) What is the mean number of rooms per house?
- h) What is the mean number of people per room?

Form B2: Out-Offices and Farm-Steadings Return

This form tells you what extra buildings are attached to a dwelling, for example, stables, coach houses, cow houses, dairies, piggeries, barns etc. It gives an idea of the full extent of a person's property.

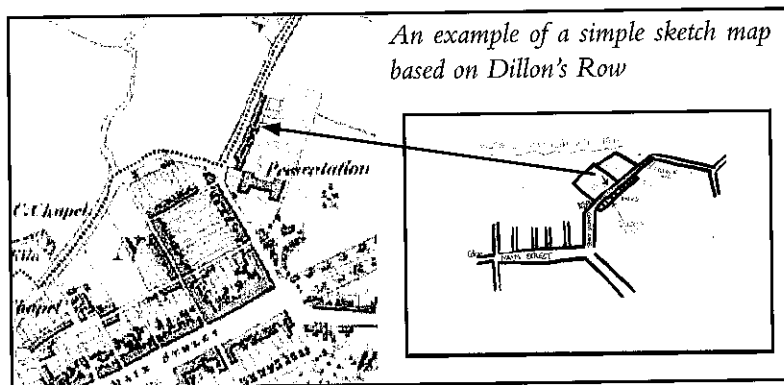
- i) How many addresses had out-buildings?
- j) What types of out-buildings were these?

N.B. To use this Worksheet you must either provide spaces on the sheet for answers or provide clear directions as to where the answers are to be written, e.g. in notes copy.

Worksheet 3: Using Fieldwork examine change over time

Work to be done before the survey

1. Locate your Census area on the 6' map – using the OSi Mapviewer
It is best to use the map on the OSI website for this as you can zoom in on your area easily
2. Draw a sketch map of your area so that you can locate your findings easily.



Carrying out the survey

1. Examine what is currently present in your area – mark this on your sketch map and make notes to help you remember what you found out later.

You will need to look at both buildings which are marked on your old map and also ones which have been built since the 1911 Census was taken

2. Take photographs of any buildings which you feel illustrate the area's current appearance.
3. Consider how many of the buildings currently there may have been present in 1911?
 - a. Are there any which have obviously the same usage?
 - b. What are the current uses of the other buildings which were there in 1911?

Safety outside the classroom

You must

- stay with the other members of your group at all times;
- stay in your group's area;
- not go into any buildings (including shops);
- return to the meeting point at the correct time;
- contact a staff member if there are any problems;
- behave in a sensible manner at all times;
- always follow our safety code.

Follow-up work

Your team will be producing a report on your investigation using PowerPoint to present your work.

This presentation must include:

- A map summarising the changes you have identified;
- Images of your area showing both new and pre1911 developments;
- A short summary of your findings.

Worksheet 4:

Using the 1911 and the 2011 Censuses to examine change over time

Our team's area in 1911:..... Dillon's Row.....

Our team's area[s] in 2011:..... Small area 087066044 – East side of Dillon's Row

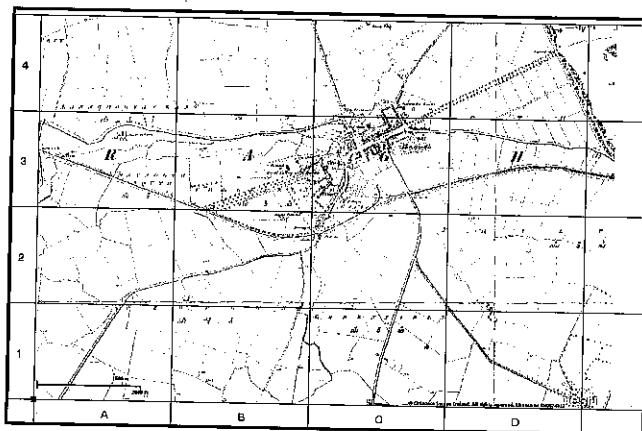
- You need a short conclusion at the end, reminding people of the main points of your article.

| | 1911 | 2011 |
|----------------------------------|------|------|
| Total residents | | |
| Number of houses | | |
| Occupations of residents | | |
| Places of birth of residents | | |
| Add other categories as required | | |

- Use the Excel file which you have been given to find the information for your small area to complete the 1911 column (Column 2) in the table.
- Go to the Census website and find out the information to complete the 2011 column (Column 3 for your small area in 2011.
- When you have found all the information write a short paragraph describing how the small area has changed over 100 years.

What will be in this article?

- Remember to give your article a title.
- You need to include a short introduction at the start telling people what you are going to be writing about
- You should not copy out all the figures, but just use the main findings and try to summarise them.
- Make sure you include all of the types of information used in the table.



Map 1: Maynooth at the start of the twentieth century

- Now click on <Street Map> . This will show you an up-to-date map of Maynooth. Compare what you can see on this up-to-date map with what is shown on the older one from about 1900. Then answer the questions below.

! To make comparisons easier use the <Overlay> toggle [on the lower right of the screen, below the list of maps] you will be able to see one map on top of the other.

- Shade the area of the 2014 town on your old map copy.

! Make sure that you shade neatly and that you include this shading in your key.

- Use the table below to describe the differences and similarities between the two maps, transport has been completed for you as an example.

| | Early 20th Century | Today |
|--|---|---|
| Size of the built up area | | |
| Transport links – roads, railways, canals | Canal and railway to south of town. Main roads E to W – Dublin Rd, Kilcock Road, through town centre. | Canal and railway to south of town, M4 now also to south of town. Dublin Rd and Kilcock Rd remain, but no longer main E-W route – M4 bypasses town. |
| Service activities | | |
| Farming activities | | |
| Farming activities | | |