The impact of career websites: what’s the evidence?

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Careers provision for young people in the UK is being re-formulated on the basis of a central role for career websites but this policy is based on unproven assumptions about their value. In this article we consider the use and impact of the two main career websites in Scotland on pupils’ career management skills. We found that pupils at risk of not achieving positive post-school destinations were less likely to use the websites, as were minority ethnic pupils. Although similar in functions, the two websites differed in their effect: one had no impact while the other impacted on only one aspect of pupils’ career management skills. Careers policy needs to be informed by more extensive research on career websites.

Keywords: career education; information; advice and guidance; ICT; websites; career management skills; career development; minority ethnic pupils

Introduction

While interest in the use of ICT in career information and guidance (CIAG) dates back to the 1960s (Watts, 2002), more recent developments, especially Web 2 technologies, have stimulated a renewed focus on its potential to extend the reach of CIAG, increase its efficiency and, indeed, act as an ‘agent of change’ to ‘create new paradigms of careers support’ (Hooley, Hutchinson, & Watts, 2010a, p. 1). This interest is evident in the number of recent reports that have considered the use and implications of the new digital technologies in CIAG (e.g. Bimrose & Barnes, 2010; Bimrose, Barnes, & Atwell, 2010; Bimrose, Hughes, & Barnes, 2011; Hooley et al., 2010a; Hooley, Hutchinson, & Watts, 2010b; Howat & Zaidi, 2010; UK Commission for Employment and Skills [UKCES], 2011). The opportunities offered by technology come at a time when the philosophy and practice of CIAG has been moving towards the promotion of self-help by clients within the context of differentiated levels of provision according to individual client need (Sampson, 2005; Sampson, Peterson, Reardon, & Lenz, 2000). ICT would appear to offer an ideal medium by which to achieve such personalised and individualised services (Bimrose & Barnes, 2010; Bosley, Krechowiecka, & Moon, 2005; Hooley et al., 2010a, 2010b; Watts & Offer, 2006). Governments in the UK have embraced ICT as a way in which to offer career guidance more efficiently to a wider public; in this case pragmatic resource considerations are arguably paramount.

ICT is a broad ‘umbrella’ term, encompassing a number of different elements or tools (e.g. email, SMS/text messaging, websites, chat, newsgroup, telephone) that
could be used in CIAG, and its role and use in CIAG has been conceptualised in different ways (Barnes & La Gro, 2009; Barnes, La Gro, & Watts, 2010; Hooey et al., 2010b; Watts & Offer, 2006). Within the range of possibilities that ICT offers, the penetration of broadband access across the UK and the ability to access the internet via mobile phones and digital TVs has directed attention to the role of websites in CIAG (Bimrose & Barnes, 2010; Bosley et al., 2005). There are many websites that have the potential to contribute to individuals’ career development from the comprehensive websites such as those of Skills Development Scotland, Careers Wales and Careers New Zealand (which have factual information and career development material, including diagnostic self-assessment and which may also offer a helpline or chat contact with an individual careers professional) through to college and university or job-finding websites that are relatively narrow in their scope, focusing on specific opportunities and narrowly related decisions. In this article we are concerned with the comprehensive career websites that are being developed within the context of public careers services in the UK while acknowledging that they represent only part of the available professional and non-professional web-based provision.

The careers landscape in the UK is fluid and fast changing but it is clear that career websites are being expected by the UK governments to fulfil a central role (Department for Employment and Learning [DEL] & Department of Education [DE], 2009; Department for Education [DfE], 2011; Scottish Government, 2011; Welsh Assembly Government, 2010). In England, it appears that the new National Careers Service will only offer online and telephone services to 13–19-year-olds with no face-to-face provision; schools can meet their new statutory duty to secure independent careers advice for their pupils solely by enabling them to access relevant websites or telephone services (DfE, 2011, 2012; see also Hooley & Watts, 2011; Watts, 2011 for an analysis of government policies in England). In Scotland, Skills Development Scotland’s input in schools is now based on the expectation that many pupils will use its website, My World of Work (MyWoW), and may not need individual contact with a careers adviser (Skills Development Scotland, 2012). Yet the value of career websites in supporting users’ career development remains untested and policy decisions are being based on unproven assumptions about their value. While we welcome the use of ICT in CIAG in general, and career websites in particular, we are concerned that CIAG in the UK is being radically restructured and services to young people re-formulated on the basis of a central role for career websites when the evidence base for such far-reaching changes is lacking.

There remain questions about young people’s access to websites. While a growing proportion of households have access to the internet (77% in 2011 according to the Office of National Statistics [ONS], 2011), the ‘digital divide’ remains and, critically, the risk of being ‘digitally excluded’ varies according to gender, age, qualification level, occupation, income, disability and region (ONS, 2010, 2011). Those without internet access can only be disadvantaged as public careers services place ever greater weight on internet-based provision. But this is only the first concern; individuals not only need access to the internet but need to be able to use it effectively in relation to their own career development. This is no small order. It requires the ability to formulate appropriate questions; to access the information relevant to them; to manage the volume and complexity of the information generated; to assess its veracity and value; and to relate the generality of the information and insights gained to their own personal circumstances and needs.
Such ability is by no means assured, even for young people who are frequently perceived as 'digital natives' for whom the internet is a 'natural' space' (YouthNet, 2010, p. 6) and whose use of digital technologies is seen as 'completely ingrained in their lives' (Green & Hannon, 2007, p. 16). Bennett, Maton and Kervin conclude: ‘The picture beginning to emerge from research...is much more complex than the digital native characterisation suggests. While technology is embedded in their lives, young people’s use and skills are not uniform’ (Bennett et al., 2008, p. 783).

Reviewing the literature on search behaviour, Hooley et al. (2010a) reached a similar conclusion, that assumptions about the ‘Google generation’ are misplaced, that despite their apparent expertise with electronic resources, young people’s abilities to search databases and interrogate information systems are questionable. Research focused specifically on how individuals use the internet for career support found that their information search and retrieval strategies were limited, that few were concerned about the reliability and validity of the information they found, paying little attention to the provider and provenance of the information (Bimrose et al., 2010; Hooley et al., 2010a).

Given this research, one might ask ‘does using career websites help young people’s career development?’ The answer is that no-one knows. Very little indeed is known about the actual impact of career websites on individuals’ knowledge and skills and whether they can deliver the gains that a substantial body of research has identified as accruing from more traditional forms of CIAG (Barnes & La Gro, 2009; Hughes & Gratton, 2009; Rocket Science UK Ltd, 2009; Watts & Offer, 2006). The research evidence demonstrates that (1) CIAG as traditionally delivered can help young people to develop their career self-management skills and decision-making skills; and (2) that higher levels of these skills are the necessary ‘precursors’ of positive longer-term education, training and economic outcomes (e.g. Hooley, Marriot, & Sampson, 2011; Hughes & Gratton, 2009; Morris, 2004; Morris, Golden, & Lines, 1998). The evaluations of websites that have been conducted have focused on users’/potential users’ awareness and satisfaction levels (e.g. Hall, Wreford, & Huckle, 2008; National Audit Office, 2005) and have not considered whether users had benefited in terms of improvements in their career-related skills. Other research has explored users’ views on career websites and how they use them but have not examined impact (e.g. Bimrose et al., 2010; Green & Hannon, 2007; Hooley et al., 2010a). This article addresses the gap in the evidence base by considering the findings and implications of a study that not only explored pupils’ use of career websites but also examined the impact on their career management skills.

**Methodology**

This article is based on a study commissioned by Careers Scotland within Scottish Enterprise (now reconstituted as Skills Development Scotland) on the use and impact of careers self-help services in three secondary schools in Scotland (Howieson, Semple, Hickman, & McKechnie, 2009). In practice, the two main Careers Scotland self-help services were the Careers Scotland website and school library materials. In addition to the Careers Scotland (CS) website, the research also considered the use and impact of the PlanITPlus website run by Continuing Education Gateway, a public sector, not-for-profit consortium of 11 Scottish Local Authorities, and very widely used by young people, teachers and Careers Scotland staff.
Features of both websites included job profiles and information, a CV-building tool, an interest guide, a telephone helpline and email service. PlanITPlus at the time of the research also had an e-chat line and e-portfolio. While similar in functions, the two websites differed in focus in that the Careers Scotland website was aimed at clients of all ages whereas PlanITPlus was primarily developed for school pupils and designed to be used within the curriculum, for example as part of personal and social education classes, as well as on an individual basis by pupils on their own or with the support of a careers adviser, teacher or parent, etc.

The schools were:

(1) an inner city school in a deprived neighbourhood with lower than national average attainment;
(2) a rural school with a mixed pupil body and average levels of attainment;
(3) an urban school in a middle class area but with a mixed pupil body including a high proportion of black and ethnic minority pupils; higher than average levels of attainment.

The research involved:

- two surveys of S4/Y11 pupils in the three schools (n = 250 and 182);
- group work with S4/Y11 pupils (n = 60);
- interviews with five careers advisers from Careers Scotland attached to the schools (two careers advisers in each of Schools 1 and 2 and one in School 3);
- interviews with seven teachers with responsibility for CIAG or pastoral care in the schools (two teachers in School 1, three in School 2 and two in School 3);
- review of documentation on career education and enterprise in the schools.

A ‘before’ and ‘after’ survey of the S4/Year 11 pupils was the key element of the research. The surveys centred on a set of questions on pupils’ career management skills which the research team developed, drawing on Careers Scotland’s Strategies for Identifying Needs in Guidance, a tool used by Careers Scotland to enable young people to assess their career management skills and therefore appropriate to use given the focus of the research (Careers Scotland, 2004). The career management skills questions comprised a total of 32 items to assess different aspects of pupils’ career self-management skills. We grouped these under the headings of:

- awareness of strengths, weaknesses and values;
- opportunity awareness;
- career planning readiness;
- support and advice awareness;
- application skills and knowledge.

Pupils completed an initial questionnaire which, in addition to the questions on their career management skills, asked about their career intentions and degree of career focus; use of websites and careers library; contact with and inputs from a careers adviser and from guidance/pastoral care staff; and a range of individual and family background information. Three weeks later pupils filled out a second questionnaire, providing information about their use of websites and other careers-related activities...
and inputs over the intervening period and answering the same questions about their career self-management skills.

The questionnaires were piloted and refined with 10 pupils in a non-project school.

The three schools were asked to provide a 50% sample of S4/Y11 pupils representative of the whole year group in terms of gender, ethnicity and attainment level. Pupils were able to opt out of taking part. The questionnaires were paper-based and administered to pupils by members of the research team in class groups (Schools 1 and 2) or to the whole sample in the assembly hall (School 3). In all cases learning support teachers or assistants were available to assist pupils requiring help to fill out the questionnaire. Typically pupils took between 20 and 25 minutes to complete them. The first questionnaire was completed by 250 pupils and 182 pupils completed both questionnaires; the number who completed both questionnaires is explained by pupil absences at each of the two time points, reflecting the level of illness at the particular time of year (February) when the fieldwork was done. A longer interval between the two questionnaires would have been preferable but this was not possible within the timescale set for the research by Careers Scotland.

The interviews and group sessions with pupils were conducted by one of the research team. The interviews were semi-structured and notes were made by the researcher during the interviews; the group sessions were recorded and then transcribed. We were very alive to the need for the research process to be as objective and neutral as possible and this informed our approach. The interview schedules and group work questions were carefully worded and the researcher employed open, non-leading questioning techniques; subsequently the interview notes and group work transcripts were reviewed by another member of the research team to check for any issues of bias. We scheduled the group work to take place after pupils had completed the questionnaire to guard against the group discussion influencing their responses to it. The researcher who carried out the interviews and group work undertook the thematic analysis of the interview notes and transcripts; a second researcher then reviewed the process and the themes that had been derived from the data to ensure (as far as possible) internal reliability. We believe we have minimised researcher influence through the approach employed.

Variation in pupils’ use of career websites

When they were first surveyed, just over a third of pupils (36%) reported that they had used the Careers Scotland (CS) website, but a considerably higher proportion (61%) had accessed PlanITPlus. At this point, over two fifths (44%) had also used their school careers library and over two thirds (66%) had had personal contact with a careers adviser through group talks, interviews and/or drop-in sessions at school.

Pupils’ use of both the CS and PlanITPlus websites varied according to their attitude to school. Those with a more negative attitude were less likely to have used either website. What was striking is that apart from this, different factors were associated with use of the CS website compared with PlanITPlus.

Usage of the CS website varied significantly according to pupils’ planned school leaving date. Pupils intending to leave school at their earliest leaving date had a higher level of usage than those staying on at school (55% vs 34%). A smaller proportion of those who reported truanting accessed the CS website than their peers who had not truanted (31% vs 41%). In contrast, leaving date and truancy were not
sources of variation in use of PlanITPlus; in this case the relevant factors were gender, attainment and mother’s and father’s education. A higher proportion of girls than boys accessed PlanITPlus (f: 68% vs m: 55%) while pupils in the low attaining group were least likely to report using it (43% vs 63% and 68% mid and high attainers respectively). Those whose parents (both mother and father) had not attended further education (FE) or higher education (HE) were less likely to have used PlanITPlus (e.g. mother: 73% FE/HE vs 53% no FE/HE).

The number of pupils from minority ethnic backgrounds in the study was small so most differences found in relation to ethnicity were not statistically significant. The main finding is that when pupils were prompted to use the career websites after completing the first questionnaire, those from minority ethnic backgrounds were more likely to respond by seeking direct contact with careers advisers and school staff than to access career websites or use the school careers library. School staff suggested that this was partly explained by a lack of confidence in those whose first language was not English.

### Multiple sources of CIAG

Pupils expected to use multiple sources of information and advice depending on the nature of the information and advice wanted (Table 1). As might be anticipated, families figured prominently, especially in relation to helping pupils decide on the right career for them (66%). Websites emerge as an important source of information and advice that pupils expect to utilise, particularly as a source of information about careers, jobs or courses (63%).

Table 2 focuses on those pupils who had indicated that they would use websites in each case and shows the extent to which they also expected to consult additional sources of information and advice. Almost half, for example, would also consult Careers Scotland staff to help them decide about the right career for them and for information and advice on CVs and applications (49% and 49%). It is clear that pupils did not perceive websites as replacing guidance from family and friends or from Careers Scotland staff and teachers.

#### Table 1. Sources of information and advice pupils would use.

| Where are you most likely to go ... | ...for information and advice to help you decide which career is right for you? % | ...to research a career and find out information about jobs or courses? % | ...for information and advice on creating a CV or applying for jobs? % |
|-----------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------|
| class teacher                     | 37                                                                              | 24                                                                     | 36                                                                   |
| guidance/pastoral care teacher    | 39                                                                              | 32                                                                     | 42                                                                   |
| leaflets/books                    | 22                                                                              | 22                                                                     | 14                                                                   |
| family                            | 66                                                                              | 42                                                                     | 54                                                                   |
| friends                           | 36                                                                              | 22                                                                     | 19                                                                   |
| websites                          | 49                                                                              | 63                                                                     | 47                                                                   |
| Careers Scotland staff            | 39                                                                              | 38                                                                     | 36                                                                   |
| other                             | 9                                                                               | 5                                                                      | 2                                                                    |
| N                                 | (175)                                                                           | (175)                                                                  | (175)                                                               |
Pupils who had used the CS website were positive about and would recommend it to friends (74%). Nevertheless, most of them also stated that they were unlikely to use the website again (73%). This may appear a contradictory response but the interviews with careers advisers and teachers help to explain it. In their experience, pupils were more inclined to build on what they have learned from the website in face-to-face discussion than to return to the website again. Careers advisers noted that it was common for use of a career website to prompt pupils to request an interview to discuss the information gained from the website.

This relates to a key issue raised by pupils, teachers and careers advisers: the difficulty pupils encountered in handling and interpreting the volume of information available from career websites:

You get so much information, you don’t know which bits are right for you, would apply to you. It needs someone to make sense of it for you. What do you do? (S4/year 11 pupil)

It’s not about access but what sense they make of it – so many don’t understand the concept of key word searches and get far too much back or something quite misleading. (Teacher)

The impact of career websites

The teachers and careers advisers interviewed thought career websites valuable in broadening pupils’ ideas, providing access to comprehensive and easily updated information and in allowing some pupils to be more ‘experimental’ in their career thinking than they might be with a careers adviser or teacher. As has been seen, pupils perceived websites as an important source of information and advice. Nevertheless, the question raised earlier remains: do career websites deliver the same gains that traditional forms of CIAG have been shown to achieve? Do they also promote young people’s career management skills?

As explained in the methodology section, the question of impact was approached by means of a ‘before’ and ‘after’ survey. After an initial questionnaire, pupils completed another one three weeks later. In the three-week period between the two questionnaires a third of pupils (33%) had accessed the CS website and 45% had made use of PlanITPlus.
The first task was to investigate whether pupils’ career management skills had changed at all over the three weeks, especially in the light of our concerns about the time scale of the research. We constructed an overall score for pupils’ responses to the items covering each of the five aspects of career self-management skills which, as described earlier in the methodology section, were based on Careers Scotland’s Strategies for Identifying Needs in Guidance (Careers Scotland, 2004). The five aspects are: awareness of strengths, weaknesses and values; opportunity awareness; career planning readiness; support and advice awareness; and application skills and knowledge. We then compared the mean scores on each as measured in the first questionnaire with the mean scores from the second questionnaire. The mean score in four of the five aspects had increased slightly over the time period and regression models confirmed the level of change was significant. The aspect of ‘awareness of strengths, weaknesses and values’ showed no significant change so was omitted from subsequent analysis.

A linear regression model was used to assess the impact of career website use on the other four career management skills. This technique enabled us to consider the effect of the use of the websites taking into account any other careers-related activity in the intervening period as well as other factors that might impact on pupils’ career self-management skills such as attainment, attitude to school, ethnicity and family background. Each of the other four aspects of career self-management was modelled separately carrying out the analyses in a series of steps to enable us to examine the effect of introducing each new factor. Factors that proved significant at the level of 0.05 were carried forward to the next step while the non-significant factors were omitted. Factors included were:

- score in the relevant career self-management skill in first questionnaire (Q1);
- if in the three weeks since completing the first questionnaire they had:
  - used Careers Scotland website;
  - used PlanITPlus website;
  - used the school careers library;
  - attended a careers convention/jobs fair;
  - spoken to a teacher about their career ideas;
  - discussed their career ideas with family;
  - group talk from the school careers advisor;
  - asked a careers advisor questions at a drop-in session at school;
  - had a careers advisor interview.
- careers focus;
- intended school leaving stage;
- planned post-school destination;
- gender;
- ethnicity;
- expected attainment level;
- school attended;
- mother’s and father’s level of education;
- living arrangements;
- truancy;
- attitude to school.
Tables 3–6 show the results of the linear regressions for each of the four aspects of career management skills. As might be expected, pupils’ prior score from the first questionnaire was highly significant in predicting their skill level when surveyed again.

Use of the career websites had a positive impact over the time-frame of the study on only one aspect of pupils’ career management skills – ‘support and advice awareness’ – and the effect was restricted to the PlanITPlus website. Pupils who used PlanITPlus had improved their score on this aspect of their career management skills compared with their peers who had not used the website (b .31; Table 3). Whether or not pupils had used the CS website, however, made no difference to their score on this aspect or indeed to any of the other three categories of career management skills. PlanITPlus is more likely to be integrated into the personal and social education (PSE) programme of schools than the Careers Scotland website, which may help to explain this result. This reflects the fact that, as noted earlier, the PlanITPlus website was designed for use within the curriculum; while the Careers Scotland website could be used in this way it was not specifically designed for this purpose.

Other CIAG inputs had an impact on certain of the career management skills. Taking all the other factors into account, pupils who had had an interview with the school careers advisor in the intervening three-week period improved their level of ‘opportunity awareness’ compared to pupils who had not had an interview (b .30; Table 4). The effect of attending a group talk from a careers adviser on their choices for the future is interesting. Pupils who had done so over the previous three weeks had a lower ‘career planning readiness’ score than their peers who had not ( —.23; Table 5). Raising pupils’ awareness of the need to think about their choices, what is involved in this and challenging their assumptions or complacency are critical elements of the career guidance process and so, at certain stages, increased uncertainty on the part of pupils can be seen as a positive outcome of a guidance intervention. In this case, being challenged to think about their future might have

| Table 3. Factors that impact on pupils’ support and advice awareness* (linear regression). |
|---------------------------------------------------------------|
| Regression Coefficients                                      |
| B                  | Std. Error | Sig   |
| Awareness at Q1 (zscore, ref = mean)                      | .371   | .071  | .000 |
| PlanITPlus in last 3 wks (ref: not used)                    |
| Used PlanITPlus                                            | .313   | .122  | .011 |
| Spoken to teacher about career ideas in last 3 wks (ref not spoken) |
| Spoken to teacher                                          | .329   | .132  | .014 |
| Mother’s education (ref: no FE/HE)                         |
| Mother been to FE/HE                                       | -.256  | .120  | .034 |
| If school gives confidence to make decisions (ref not give confidence) |
| School gives me confidence                                 | .301   | .146  | .041 |
| Constant                                                    | -.337  | .149  |

*normalised score; mean of 0 and standard deviation of 1.
resulted in pupils’ realising that they were not as ready as they had previously thought themselves to be, hence a lower, but perhaps more realistic score.

Pupils who had made use of the school careers library in the intervening period between the surveys were more likely to have improved their ‘application skills and knowledge’ score compared with their classmates who had not, after controlling for all the other factors in the modelling (b .43; Table 6).

Talking their career ideas over with a teacher had a positive effect on pupils’ ‘support and advice awareness’; pupils who had done so had improved their score over the three weeks (b .33; Table 3).

Pupils who had discussed their career ideas at home over the three weeks showed an improvement in their ‘career planning readiness’ compared to those who had not (b .287; Table 5). Two family background factors proved significant. Pupils who lived with a parent and step-parent had a lower score on ‘opportunity awareness’ than their peers who stayed with their mother and father (b −.36; Table 4). Mother’s level of education had an impact on pupils’ ‘support and advice awareness’ score; those

Table 4. Factors that impact on pupils’ opportunity awareness* (linear regression).

| Regression Coefficients |   B  | Std. Error | Sig  |
|-------------------------|------|------------|------|
| Awareness at Q1 (zscore, ref = mean) | .590 | .057       | .000 |
| Interview with careers adviser in last 3 wks (ref: no int) | | | |
| Had interview | .304 | .131       | .021 |
| Living arrangements (ref: lives with mother and father) | | | |
| Lives parent and step-parent | −.355 | .164       | .032 |
| Constant | −.010 | .063       |      |

*normalised score; mean of 0 and standard deviation of 1.

Pupils who had made use of the school careers library in the intervening period between the surveys were more likely to have improved their ‘application skills and knowledge’ score compared with their classmates who had not, after controlling for all the other factors in the modelling (b .43; Table 6).

Talking their career ideas over with a teacher had a positive effect on pupils’ ‘support and advice awareness’; pupils who had done so had improved their score over the three weeks (b .33; Table 3).

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Table 5. Factors that impact on pupils’ career planning readiness* (linear regression).

| Regression Coefficients |   B  | Std. Error | Sig  |
|-------------------------|------|------------|------|
| Readiness at Q1 (zscore, ref = mean) | .491 | .065       | .000 |
| Leaving date (ref: S5/S6) | | | |
| S4/winter S5 | .487 | .193       | .013 |
| Group talk from school careers advisor in last 3 wks (ref: no talk) | | | |
| Had group talk | −.233 | .117       | .048 |
| Discussed career ideas at home in last 3 wks (ref not discussed) | | | |
| Discussed ideas at home with family | .287 | .119       | .017 |
| Attainment (ref: mid/high) | | | |
| Low | .477 | .156       | .003 |
| Constant | −.612 | .213       |      |

*normalised score; mean of 0 and standard deviation of 1.
whose mother had been to further or higher education were more likely to have a lower score on ‘support and advice awareness’ than did pupils whose mothers had no experience of post-school education ($b = -.26$; Table 3). It may be that mothers with no experience of post-school education are less confident in advising their children and more likely to suggest other sources as more useful and informed.

Several individual level factors were associated with a higher score on ‘career planning readiness’. After taking all other factors into account, pupils in the low attainment group had higher ‘career planning readiness’ than those in the mid and highest attainment group ($b = .48$). Perhaps not unexpectedly (and reassuringly), those who were planning to leave school at their earliest leaving date were more likely to have improved their score on ‘career planning readiness’ ($b = .48$; Table 5).

**Discussion and conclusions**

The study was a small one, conducted over a short timescale and involving one year group but it is the only study (as far as we have been able to determine) that attempts to measure the actual impact of website use. Its findings raise important questions that need to be addressed in a context where young people’s access to CIAG may be limited to internet resources.

**The impact of career websites and the case for a mixed economy**

Given the short timescale within which we were obliged to carry out the research, we had concerns that it might be insufficient to allow any significant changes in pupils’ career management skills to occur and hence enable us to assess the impact of the two career websites under consideration. The analysis, however, did identify a significant – albeit small – change in four of the five aspects of pupils’ career management skills. The statistical modelling showed that one of the two career websites had an impact on one of these aspects of career management skills (‘support and advice awareness’); neither the use of the Careers Scotland website nor of PlanITPlus had an impact on pupils’ other career management skills. Whether this is perceived as a limited impact or in a more positive way may be debateable but it is clear that other types of careers provision occurring during the three-week time-frame each made a difference to aspects of pupils’ career management skills. An interview with a careers adviser had an impact on pupils’ ‘opportunity awareness’; group work with a career adviser made a difference to pupils’ ‘career planning readiness’; and use of the careers library had an effect on pupils’ ‘application skills and knowledge’.
The research gives further weight to the argument that websites are most appropriately viewed as one element within a mixed system of career provision. This and other research demonstrates that while young people are interested in online provision of CIAG, they perceive it as an additional method of delivery, not as a replacement of face-to-face support (Bimrose et al., 2010; Watts & Offer, 2006). Pupils in our study valued career websites but they did not regard them as a replacement for direct contact with a careers adviser, a view shared by the teachers and careers advisers interviewed. We found, in common with other research, that pupils expected to use different sources of CIAG for different purposes and while they might use the internet for information, they then wanted to follow this up via direct contact with a careers adviser (Bimrose et al., 2010; Watts & Offer, 2006). The different types of CIAG provision did not function in isolation from each other. The use of a website could prompt a pupil to request an interview with a careers adviser, and alternatively, in the course of an interview a careers adviser might provide pupils with direction and support in the use of the website and might set them specific follow-up research tasks to carry out.

The findings on the role and impact of the school careers library are noteworthy. More pupils used their school careers library than accessed the CS website and use of the careers library had as much impact as website use. Yet in the schools in the study, the careers library was thought to be under-resourced, the result, some interviewees suggested, of an assumption that the internet and career websites would supersede it. In their study, Bimrose et al. (2010) also found that many 12–17-year-olds had used their school or college careers libraries. The evidence suggests that printed materials in a careers library are still valued by pupils. The careers library should not simply be assumed to be redundant in the digital world.

The evidence is accumulating that career websites should not be seen as the only source of CIAG for any group of pupils. It is worth remembering that the statistical modelling controlled for pupils’ expected attainment level so that the results for the impact of career websites take this into account. We raise this point because of the assumption implicit in much policy that the internet and websites can be the main, if not the only, source of CIAG for certain groups of young people such as higher achieving pupils with need being assessed primarily in relation to social and educational disadvantage rather than including career decision-making need.

Risking further disadvantage

The study revealed substantial variation in use of career websites by different groups of pupils. It was those pupils who might be considered at risk of not achieving positive post-school destinations who were less likely to make use of the websites, even after prompting to do so. Yet, critically, these factors did not make a significant difference to the extent of direct contact they had with Careers Scotland (group talks, drop-in sessions or careers adviser interviews). There is a danger that these young people are at risk of being further disadvantaged unless providers can ensure that they are able, in practice as well as in theory, to continue to offer them more personal support.

Minority ethnic pupils in the study responded to encouragement to be more active in their career planning by seeking direct contact with Careers Scotland staff and teachers rather than by accessing the career websites. They too may be disadvantaged by the emphasis on career websites.
Variation in the use and impact of career websites

Even when examining the impact of only two websites that are similar in their functions, we found that their use by pupils varied. For example, truancy was a relevant factor in use of the CS website but not in relation to PlanITPlus. Not only did use of the two websites vary, but they also differed in their effect. One had no impact while the other impacted on only one aspect of career management skills.

While the specific design of any website is fundamental to its effectiveness, our discussions with pupils, teachers and careers advisers pointed to two critical factors (and there will be others). The use of PlanITPlus, in contrast with the CS website, was integrated into the schools’ PSE provision from S2/Y9 onwards. Career websites may be more effective for pupils when use, at least initially, is part of a school’s PSE provision and is supported by pastoral care staff. We also speculate that the ownership of the website by relevant professionals may also play a part in determining its effectiveness. Teachers in this study appeared to have a strong sense of ownership of PlanITPlus because of the way in which its development and review process has placed particular importance on regular links with user schools.

Articles frequently end with a call for more research and this one is no exception. Our study has raised a number of questions about pupils’ use of career websites and we would argue that it is too early to make the sort of assumptions about their use and value that underpin current government policy on CIAG. The guidance community and policy makers need to know much more about their use (or non-use) by different individuals, the extent to which they do benefit users’ career management skills, the factors that contribute to their effectiveness and how they interact with other online resources and other types of CIAG provision. Without such research CIAG policy will continue to be based on assumptions rather than evidence.

Notes
1. We use the term CIAG which is the usual nomenclature in Scotland while recognising that other terms such as CEIAG may be used elsewhere in the UK.
2. Replaced in 2011 by a new website, My World of Work.
3. This question was not asked about PlanITPlus.

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References

Barnes, A., & La Gro, N. (2009). Using ICT: A step chance in career guidance or a sop to the twitting classes? In Constructing the future: Career guidance for changing contexts (pp. 70–78). Institute of Career Guidance: Stourbridge.

Barnes, A., La Gro, N., & Watts, A. G. (2010). Developing e-guidance competences: The outcomes of a two-year European project to transform the professional development of career guidance practitioners. 25, Spring. Cambridge: Career Research and Development.

Bennett, S., Maton, K., & Kervin, L. (2008). The ‘digital natives’ debate: A critical review of the evidence. British Journal of Educational Technology, 339, 775–786.

Bimrose, J., & Barnes, S. A. (2010). Careers information, advice and guidance: The digital revolution and repositioning of labour market information. Coventry: Warwick Institute for Employment Research.

Bimrose, J., Barnes, S. A., & Atwell, G. (2010). An investigation into the skills needed by Connexions Personal Advisers to develop internet-based guidance. Reading: CIBT Education Trust.

Bimrose, J., Hughes, D., & Barnes, S. A. (2011). Integrating new technologies into careers practice: Extending the knowledge base. London: UK Commission for Employment and Skills.

Bosley, C., Krechowiecka, I., & Moon, S. (2005). Review of literature on the use of information and communication technology in the context of careers education and guidance. Derby: Centre for Guidance Studies, University of Derby.

Careers Scotland. (2004). Strategies for the identification of needs in guidance (SING). Glasgow: Careers Scotland.

Department for Education. (2011). The education act. London: DfE.

Department for Education. (2012). Statutory guidance for Schools: Careers guidance. Retrieved from http://www.education.gov.uk/schools/leadership/statutoryguidance/g00205755/statutory-careers-guidance-for-young-people

Department for Employment and Learning (DEL) & Department of Education (DE). (2009). Preparing for success: CEIAG - Strategy and implementation plan. Belfast: Stormont.

Green, H., & Hannon, C. (2007). Their space: Education for a digital generation. Retrieved from http://www.demos.co.uk/publications/theirspace

Hall, L., Wreford, S., & Huckle, C. (2008). Connexions Direct: User satisfaction survey 2008 (Report No. RW042). London: Department for Children, Families and Schools.

Hooley, T., Hutchinson, J., & Watts, A. G. (2010a). Careering through the web. London: UKCES.

Hooley, T., Hutchinson, J., & Watts, A. G. (2010b). Enhancing choice? The role of technology in the career support market. London: UKCES.

Hooley, T., Marriott, J., & Sampson, J. P., Jr. (2011). Fostering college and career readiness: How career development activities in schools impact on graduation rates and students' life success. International Centre for Guidance Studies, University of Derby. Retrieved from http://www.derby.ac.uk/files/career_cruisingnew.pdf

Hooley, T., & Watts, A. G. (2011). Careers work with young people: Transition or collapse? Retrieved from http://www.derby.ac.uk/files/careers_transition_paper.pdf

Howat, C., & Zaidi, A. (2010). The use of LMI in online career direction and learning. London: UKCES.

Howieson, C., Semple, S., Hickman, S., & McKechnie, J. (2009). Self-help and career planning (Report to Skills Development Scotland). Retrieved from http://www.ces.ed.ac.uk/PDF%20Files/SHCP_report.pdf

Hughes, D., & Gratton, G. (2009). Evidence and impact: Careers and guidance-related interventions – A literature review. Reading: CIBT Education Trust.

Morris, M. (2004). The case for careers education and guidance for 14–19-year-olds. Slough: National Foundation for Educational Research.

Morris, M., Golden, S., & Lines, A. (1998). The impact of careers education and guidance on transition at 16 (Research Report No. RD21). Sheffield: DfEE.

National Audit Office. (2005). Extending access to learning through technology: Ufi and the Learndirect service (Report by the Comptroller and Auditor General. HC 460 Session 2005–2006, 4 November 2005). London: National Audit Office.
Office of National Statistics (ONS). (2010). Internet access 2010: Households and individuals (Statistical Bulletin, August 2010). Newport: ONS. Retrieved from http://www.ons.gov.uk/ons rel/rdit2/internet-access---households-and-individuals/2010/index.html

Office of National Statistics (ONS). (2011). Internet access 2011: Households and individuals (Statistical Bulletin, August 2011). Retrieved from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-226727

Rocket Science UK Ltd. (2009). Self-help in career planning and decision-making (Unpublished Report to Skills Development Scotland).

Sampson, J. P. (2005). Differentiating career services for young people and adults: The CIP approach. Glasgow: Exposition of the Career Planning Journey and the Differentiated Service Delivery Framework.

Sampson, J. P., Peterson, G. W., Reardon, R. C., & Lenz, J. G. (2000). Using readiness assessment to improve career services: A cognitive information processing approach. Career Development Quarterly, 49, 146–174.

Scottish Government. (2011). Careers information, advice and guidance in Scotland: A framework for service redesign and improvement. Edinburgh: Scottish Government.

Skills Development Scotland. (2012). Corporate strategy 2012/15. Glasgow: SDS.

Watts, A. G. (2002). The role of information and communication technologies in integrated career information and guidance systems. International Journal for Educational and Vocational Guidance, 2(3), 139–155.

Watts, A. G. (2011). The coalition government’s emerging policies on career guidance (Career England Policy Commentary 15).

Watts, A. G., & Offer, M. (2006). The current and potential role of ICT in delivering information, advice and guidance. Derby: Centre for Guidance Studies and NICEC, University of Derby.

Welsh Assembly Government. (2010). A review of careers service provision in Wales. Cardiff: Welsh Assembly Government.

UK Commission for Employment and Skills (UKCES). (2011). Helping individuals succeed: Transforming career guidance through technology. Retrieved from http://www.ukces.org.uk/assets/bispartners/ukces/docs/publications/helping-individuals-succeed-transforming-career-guidance.pdf

YouthNet. (2010). Life support: Young people’s needs in a digital age. Retrieved from http://www.youthnet.org/wp-content/uploads/2011/05/Life-Support-Report.pdf