Face-to-Face Versus Online Tutorial Support in Distance Education: Preference, Performance, and Pass Rates in Students with Disabilities

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Abstract

This study examined the experiences of students taking the same courses in the humanities by distance learning when tutorial support was provided conventionally (using limited face-to-face sessions with some contact by telephone and email) or online (using a combination of computer-mediated conferencing and email). The results showed that, given a choice between face-to-face and online tutorial support, students with and without disabilities were equally likely to choose online support rather than face-to-face support. There were no significant differences in the reasons given by students with and without disabilities for choosing online rather than face-to-face support, although there was a nonsignificant tendency for students with disabilities to refer to "another reason" (including disablement or chronic illness) as a reason for choosing online support. Students with and without disabilities obtained similar grades for their courses, and this was true regardless of whether they had chosen face-to-face or online support. Students with and without disabilities were also equally likely to pass their courses, regardless of whether they had chosen face-to-face or online support. Even so, there was a nonsignificant tendency for students with disabilities to achieve a lower pass rate than students without disabilities with face-to-face support, whereas with online support their pass rate was marginally higher than that of students without disabilities.

Keywords: *attainment, disabilities, distance education, face-to-face tutorial support, online tutorial support*

Recent years have seen a considerable growth in distance education, both in the United States and in other countries (Allen & Seaman, 2011). In distance learning, the curriculum was traditionally provided through correspondence materials. Nevertheless, most distance-learning institutions use various kinds of personal support in trying to narrow what Moore (1980) called the "transactional distance" with their students, most commonly through regular albeit limited tutorials. In recent years, there has been an increasing use of information technology in distance education, with a move from paper-based to electronic materials accompanied by a move from face-to-face to online tutorial support. As was originally predicted by Saba (1988), technology now plays a major role in support-ing students in distance education (Gokool-Ramdoo, 2008; Wheeler, 2007). There have, of course, been parallel developments in conventional, campus-based forms of postsecondary education.

In these latter programs, the move from paper-based to electronic materials has often happened simultaneously with the move from face-to-face to online support. This makes it hard to disentangle their respective consequences for students' experience and attainment. In distance education, however, there is usually a separation between the central design and production of instructional materials and the provision of tutorial support at a local level. It therefore becomes feasible to evaluate the impact of technological innova-tions on each of these two aspects of the curriculum in a quasi-experimental manner. This article is concerned with differences in student attainment in distance educa-tion when tutorial support is provided online rather than face-to-face but when the aims, content, and assessment demands of the relevant courses are held constant.

An early study found that students might encounter problems when attempting to access online tutorial support because of technological problems, ambiguity in the tutor's advice and instructions, or the paucity of social and other contextual cues (Hara & Kling, 2000). For their part, even instructors who are very experi-enced in face-to-face support reported problems when

working online (Kitto & Higgins, 2003). In a large survey of students taking a distance-learning course, Price, Richardson, and Jelfs (2007) found that those who received online tutorial support reported poorer experiences than those receiving face-to-face support. They concluded that, to make online support successful, both tutors and students needed training in how to communicate online in the absence of the paralinguistic information that is available in face-to-face situations.

However, this latter study was concerned with students taking a multi-disciplinary course where the students had to grasp concepts, methods, and theories from several different academic disciplines. It is possible that the tutors were either less competent or less confident in supporting such a broad curriculum through online communication. Alternatively, the students who received online support might just have perceived their tutors as being less competent and as a result rated the quality of their tutorial support less positively. Two subsequent studies that involved courses within specific disciplinary areas found no significant differences between students who received face-to-face support and students who received online support in terms of their perceptions of the quality of the courses in question (Richardson, 2009a, 2009b).

There has been little research on the experiences of students with disabilities who receive online tutorial support. Most research has been concerned with the accessibility (or otherwise) of the various technologies that are used to deliver the course content rather than with the nature of their tutorial support (see Fichten, Asuncion, & Scapin, 2014, for a recent review). The study by Richardson (2009b) concerned two courses that were taken by significant numbers of students with disabilities, and so the opportunity was taken to examine the preference of students with and without disabilities for face-to-face versus online tutorial support and to compare the attainment of students with and without disabilities who had received face-to-face or online tutorial support. There were three research questions:

- Do students with and without disabilities tend to give different reasons for choosing online rather than face-to-face tutorial support?
- Do students with and without disabilities tend to obtain different grades when they receive online rather than face-to-face tutorial support?
- Do students with and without disabilities differ in their pass rates when they receive online rather than face-to-face tutorial support?

Method

Context

The Open University was created in 1969 to provide degree programs by distance education across the United Kingdom. It accepts all applicants over the normal minimum age of 16 without imposing formal entry requirements. Originally, nearly all of its courses were delivered by correspondence materials, combined with television and radio broadcasts, video and audio recordings, tutorial support at a local level, and (in some cases) residential schools. In more recent years, however, the Open University has made increasing use of computer-based delivery such as CD-ROMs, dedicated websites, and computer-mediated conferencing. Most of the University's courses are worth 30 or 60 credit points, on the basis that full-time study would consist of courses worth 120 credit points in any calendar year. Students may register for two or more courses at a time up to a maximum load of 120 credit points.

Tutors are appointed by the University to provide support for groups of 10–20 students taking a particular course. Their role is a formal, contractual one (usually described as "associate lecturer"). They are employed to lead tutorials (whether face-to-face or online), to grade and to provide detailed written feedback on the students' assignments, and to offer individual support by telephone, e-mail, or computer conferencing, both in general terms and more specifically in helping students to prepare for examinations or other major forms of assessment.

Courses

This study was concerned with two courses in the humanities. One was an introductory course, A103: An *Introduction to the Humanities*, aimed at students who were entering higher education for the first time or after a long break. By the end of the course students should:

1. have gained experience and knowledge in each of the individual disciplines and their methodologies, and have learnt how to apply their knowledge to interdisciplinary study in the Arts;
2. feel confidence that they have the basis upon which they can expand their academic horizons;
3. be able to develop an argument and support judgments and views with appropriate evidence;
4. be able to write well-argued essays which demonstrate the ability to analyze texts and their contexts;

5. have acquired some feeling for cultural diversity;
6. understand a range of appropriate concepts which provide a foundation for study in the Arts;
7. have gained enthusiasm for the subjects which they have studied.

The second was an advanced undergraduate course, A300: *20th Century Literature: Texts and Debates*. Its aims and objectives were stated as follows:

1. To enable students to explore the variety and distinctiveness of 20th-century literature through a selection of texts from different genres (poetry, prose fiction, and drama).
2. To introduce students to the different historical and cultural contexts in which the 20th-century literary texts were produced, and encourage students to explore the relation between literary texts and their contexts.
3. To introduce students to theoretical perspectives on literature that have been extensively debated and/or repeatedly contemplated in the 20th century.

Both courses were of nine months' duration, were assessed solely by coursework, and were worth 60 credit points (thus equating to 50% of full-time study). Both were presented in two versions. In one version, tutorial support was provided by means of limited face-to-face sessions (totaling 14 and 16 hours, respectively) with some contact by telephone and email. In the second version, tutorial support was provided online through computer-mediated conferencing and email. The student contact time was equated between the two versions of each course, but the tutors had considerable discretion in how they made use of that time.

The tutors responsible for online support were experienced in face-to-face support (often on the same course), and some had previously tutored a wholly online introductory course aimed at familiarizing distance-learning students with the use of computers and the Internet. These tutors received online briefing and training activities and contributed to their own closed online support forum. The face-to-face tutorials typically involved small-group activities and general discussion focused on the coursework requirements. Similar activities were employed in the online tutorials, but these were asynchronous, often extending over a week. On the one hand, this meant that the students required more explicit structure and prompting from the tutors with regard to particular tasks and the general conduct of online tutorials. On the other hand, it meant that students could make more reflective contributions when freed from the immediacy of face-to-face interactions.

Participants

In 2006–2007, 3,944 students had registered for A103, of whom 3,052 had chosen face-to-face tutorial support and 892 had chosen online tutorial support; 570 students had registered for A300, of whom 491 had chosen face-to-face tutorial support and 79 had chosen online tutorial support. Across both courses, 292 students had identified themselves as having one or more disabilities, of whom 183 (or 63%) had identified themselves as having two or more disabilities. In those who identified themselves as having just one disability, the most common forms were mental health difficulties (33 students), dyslexia or other specific learning difficulties (24 students), other disabilities (12 students), and fatigue or pain (10 students). This left fewer than 10 students who had identified themselves as having each of the following forms of disability: blind or partially sighted; deaf or hard of hearing; restricted mobility; restricted manual skills; impaired speech; and unseen disabilities.

Materials and Procedure

Richardson (2009b) distributed a postal survey in March 2007 to students who had taken these courses and who were available to be surveyed under the Open University's procedures, which among other things prohibit any student being asked to take part in more than two research surveys in a calendar year. The survey was distributed to random samples, each of 400 students, from among those who had taken the face-to-face and online versions of A103 and the face-to-face version of A300. The randomization procedure involved an algorithm applied to the numerical portion of the students' personal identifiers (used for registration purposes), which are in turn assigned to students in a largely unsystematic manner. The survey was also distributed to all 64 students who had taken the online version of A300 and were available to be surveyed.

The survey began by asking the students why they had chosen the face-to-face or online version of their course. Students who had chosen face-to-face support were given the response alternatives "Because I prefer face-to-face tuition," "Because I did not know about [the online version]," "Because I do not have reliable access to the Internet," and "For another reason (please specify)." (In U.K. English, "tuition" is synonymous with "tutorial support," not with "tuition fees.") Students who had chosen online support were given the

response alternatives "Because I prefer online tuition," "Because I did not know about [the face-to-face version]," "Because other commitments prevent me from attending tutorials," and "For another reason (please specify)." In both cases, students could choose more than one response alternative. The survey contained other sections that are not reported here due to limited space.

Data Analysis

Information concerning students' choice of face-to-face or online tutorial support, their reasons for this choice, and their pass rates took the form of multiway contingency tables based on frequency data. These were analyzed using chi-squared tests (for two-way contingency tables) and logit loglinear analyses (for three-way contingency tables). Both procedures yielded chi-squared (χ^2) statistics (see Tabachnick & Fidell, 2013, pp. 915–969). Information concerning students' attainment took the form of grades on a percentage scale where the passing grade was 40%. These data were analyzed using a factorial analysis of variance, which yielded F statistics (see Tabachnick & Fidell, 2013, pp. 69–75).

Results

Preference for Face-to-Face Versus Online Tutorial Support

Across both courses, 3,543 students had chosen face-to-face tutorial support, and 971 had chosen online tutorial support; 232 (or 6.5%) of the former students had identified themselves as having one or more disabilities as opposed to 60 (or 6.2%) of the latter students. Equivalently, 20.5% of the students with disabilities had chosen online tutorial support, and 21.6% of the students without disabilities had chosen online tutorial support. A chi-squared test showed that the difference in these proportions was not statistically significant, $\chi^2(1, N = 4,514) = 0.17, p = .68$, which implies that the students with and without disabilities were equally likely to choose online rather than face-to-face tutorial support.

Of the 3,944 students taking A103, 22.6% had chosen online tutorial support; of the 570 students taking A300, 13.9% had chosen online tutorial support. A chi-squared test showed that the difference in these proportions was statistically significant, $\chi^2(1, N = 4,514) = 22.62, p < .001$, which suggests that students taking introductory courses are more likely to choose online tutorial support than are students taking more advanced courses. However, the difference between students with and without disabilities did not interact with the difference between the two courses

in predicting the students' choice of mode of tutorial support, $\chi^2(1, N = 4,514) = 0.05, p = .82$. This implies that students with and without disabilities were equally likely to choose online rather than face-to-face tutorial support on both of the courses.

In the survey carried out by Richardson (2009b), responses were provided by 33 students with disabilities and by 364 students without disabilities out of the 800 students who had chosen face-to-face tutorial support, and they are summarized in the top half of Table 1. The most common reason was "Because I prefer face-to-face tuition." Those who chose "For another reason" often cited their need to have personal contact both with their tutors and with other students. In addition, older students often cited a lack of confidence or skills in computing.

Responses were also provided by 18 students with disabilities and 195 students without disabilities out of the 464 students who had chosen online tutorial support, and they are summarized in the bottom half of Table 1. The most common reasons were "Because I prefer online tuition" and "Because other commitments prevent me from attending tutorials." Those who chose "For another reason" often mentioned the need for a flexible approach to studying to fit in with other commitments or the fact that they resided in rural areas or abroad. Some students also cited disablement or chronic illness. Because students could choose more than one response alternative, a separate chi-squared test was used to compare the proportions of students with and without disabilities who had given each of the eight responses shown in Table 1. These tests found no significant difference in the proportions of students with and without disabilities giving any of the eight responses, $\chi^2(1, N = 610) \leq 3.47, p \geq .06$ in each case. Thus, students with and without disabilities seemed to have similar reasons for choosing either face-to-face support or online support.

Performance with Face-to-Face and Online Tutorial Support

The students' coursework was graded on a percentage scale where the passing grade was 40%. A final grade had not been recorded for 620 students, usually because they had withdrawn from their course or had been allowed to defer their assessment. The remaining 3,894 students obtained a mean overall grade of 57.65 with a standard deviation of 25.23. The 3,063 students who had chosen face-to-face tutorial support obtained a mean overall grade of 57.20. In this group, the 186 students with disabilities obtained a mean overall grade of 52.95, and the 2,877 students without disabilities obtained a mean overall grade of 57.47. The 831 stu-

dents who had chosen online tutorial support obtained a mean overall grade of 59.31. In this group, the 50 students with disabilities obtained a mean overall grade of 58.64, and the 781 students without disabilities obtained a mean overall grade of 59.36.

An analysis of variance found that there was no significant difference between the grades obtained by the students who had chosen face-to-face support and the students who had chosen online support, $F(1, 3886) = 0.06$, $p = .82$, no significant difference between the grades obtained by the students with and without disabilities, $F(1, 3886) = 1.66$, $p = .20$, and no significant interaction between these two effects, $F(1, 3886) = 0.00$, $p = .95$. There was also no significant difference between the grades obtained by the students taking the two courses, $F(1, 3886) = 0.01$, $p = .91$, and there were no significant interactions involving this effect. In short, students with and without disabilities obtained similar overall grades with either face-to-face or online support.

Pass Rates with Face-to-Face and Online Tutorial Support

A final result was recorded for all but 86 of the 4,514 students: 3,048 passed their course, an overall pass rate of 68.8%. (Students who had withdrawn from their course were considered to have failed.) The pass rate for the 3,473 students who had chosen face-to-face tutorial support was 68.5%. Within this group, the pass rate for the 228 students with disabilities was 62.3% and the pass rate for the 3,245 students without disabilities was 68.9%. The pass rate for the 955 students who had chosen online tutorial support was 70.1%. Within this group, the pass rate for the 59 students with disabilities was 71.2% and the pass rate for the 896 students without disabilities was 70.0%.

There was no significant difference in the pass rate between the students who had chosen face-to-face support and the students who had chosen online support, $\chi^2(1, N = 4,428) = 0.84$, $p = .36$, no significant difference in the pass rate between the students with and without disabilities, $\chi^2(1, N = 4,428) = 3.19$, $p = .07$, and no significant interaction between these effects, $\chi^2(1, N = 4,428) = 1.19$, $p = .28$. Nevertheless, there was a nonsignificant tendency for the students with disabilities to achieve a lower pass rate than the students without disabilities with face-to-face support, whereas with online support their pass rate was marginally higher.

The pass rate on A103 was 68.0%, and the pass rate on A300 was 74.6%. The difference between these rates was statistically significant, $\chi^2(1, N = 4,428) = 10.08$, $p = .001$, suggesting that weaker students may

not progress to more advanced courses. There was also a significant interaction between this effect and that of the mode of tutorial support, $\chi^2(1, N = 4,428) = 8.30$, $p = .004$. In the case of A103, the pass rate tended to be slightly higher with online support (70.7%) than with face-to-face support (67.2%). However, in the case of A300, the pass rate tended to be markedly lower with online support (63.3%) than with face-to-face support (76.5%). This suggests that online tutorial support may be less effective for more advanced courses. Even so, there was no three-way interaction involving the effect of disability, $\chi^2(1, N = 4,428) = 0.05$, $p = .82$, which implies that the pattern was similar for both students with disabilities and students without disabilities.

Discussion

The evidence presented in this paper is of interest because it was possible to examine the role of the mode of tutorial support (face-to-face versus online) while keeping both the curricula and the forms of assessment in the relevant courses exactly the same.

Findings of this Study

First, this study found that, given a choice between face-to-face and online tutorial support, students with and without disabilities were equally likely to choose online support rather than face-to-face support. Second, this study found no significant differences in the reasons given by students with and without disabilities for choosing online rather than face-to-face support. There was, however, a nonsignificant tendency for students with disabilities to refer to "another reason" (including disablement or chronic illness) as a reason for choosing online tutorial support. This reflects the important role of online learning as an opportunity for people with severe disabilities or chronic illness to access postsecondary education (Newell & Debenham, 2009).

Third, this study found that students with and without disabilities obtained similar grades for their courses, and that this was true regardless of whether they had chosen face-to-face or online tutorial support. Finally, students with and without disabilities were equally likely to pass their courses. This too was true regardless of whether they had chosen face-to-face or online tutorial support. Even so, there was a nonsignificant tendency for students with disabilities to achieve a lower pass rate than students without disabilities with face-to-face tutorial support, whereas with online tutorial support their pass rate was marginally higher than that of students without disabilities. This suggests that online tutorial support may be an effective way to support students with disabilities in distance education.

Limitations of this Study

The evidence presented in this paper was obtained from just two humanities courses, and in principle the results may not generalize to students taking other courses at the Open University or students at other institutions of postsecondary education. Students with disabilities constituted just 6.5% of the total number of students taking the relevant courses, and only 51 students with disabilities provided responses to the survey regarding why they had chosen the face-to-face or online versions of those courses. This precluded any more detailed analysis relating to students' race, ethnicity, or gender. Two-thirds of the students with disabilities identified themselves as having two or more disabilities, and this made it difficult to focus on subgroups of students with particular disabilities.

Implications of the Study

The main conclusion from this study is that students with and without disabilities are similar both in terms of their preferences for face-to-face rather than online tutorial support and in terms of their subsequent levels of academic attainment with either face-to-face or online tutorial support. Both students with disabilities and students without disabilities tend to value face-to-face support for the personal contact with their tutors, but they also tend to value online support for its flexibility. Clearly, both students with disabilities and students without disabilities should have access to either face-to-face or online support. This conclusion is consistent with the notion of universal design, which has a straightforward application in educational contexts for both secondary and postsecondary students (Burgstahler, 2001, 2007).

Elias (2010) showed how the general principles of universal instructional design could be tailored to the needs of instructors and instructional designers in online environments. One such principle was that of the instructional climate. Elias argued that in online learning the instructor needed to be engaged in discussion forums, available for one-on-one consultation, and in regular contact with students. Clearly, these prescriptions for effective tutorial support apply equally when that support is provided face-to-face. By providing effective support in both modes, distance-learning institutions can seek to ensure that their programs are accessible both to students with disabilities and to students without disabilities.

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Table 1

Percentages of Students With and Without Disabilities Giving Different Reasons for Choosing Face-to-Face and Online Tutorial Support

	Students with disabilities	Students without disabilities
Reasons for choosing face-to-face tutorial support	(n = 33)	(n = 364)
Because I prefer face-to-face tuition	70	68
Because I did not know about [the online version]	12	11
Because I do not have reliable access to the Internet	18	19
For another reason	18	18
Reasons for choosing online tutorial support	(n = 18)	(n = 195)
Because I prefer online tuition	61	53
Because I did not know about [the face-to-face version]	0	2
Because other commitments prevent me from attending tutorials	39	52
For another reason	39	20