TT284 Pilot

Supporting Apprentice Students by Evaluating their Study Needs

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Rationale

The aim of this project was to provide potentially more appropriate support to apprentice students and evaluate its effectiveness. The primary goal was to improve their attendance at tutorials by offering sessions at more suitable times. The history of the Open University is based on their students working full time conventional hours (9:00 – 17:00 Monday to Friday) and so traditionally tutorials have been scheduled on Monday to Thursday evenings and Saturdays. Apprentices however are given 20% of their working time to study and so daytime tutorials in the working week should be more relevant. Survey results did indicate that only about 35% of apprentices said they would prefer to attend daytime tutorials(Thomson, Carter & McIntyre, 2022)), however, a previous trial in the apprentice only TMXY130 (Carter, Thomson, 2020) showed a dramatic preference for weekday daytime tutorials over corresponding evening sessions.

Choice of TT284

TT284 was chosen for this study because it has a substantial number of apprentices (60 in this presentation). Being a nationally, rather than regionally, based module also meant that the apprentice students could be allocated to a single tutor (in practice 58 out of the 60 were able to be allocated to one tutor with 2 late registrations to another tutor in the same cluster).   The cluster used had a total of approximately 320 students. The tutors are anonymised in the data with Tutor1 having 58 apprentices allocated, Tutor2 having 2 apprentices allocated and Tutor3-Tutor7 having none.

Tutorial attendance

All of the tutorials in the cluster were made available and advertised to all students in the cluster. Almost every tutorial was presented both on a weekday daytime and either a weekday evening or a Saturday. All sessions were recorded. To compare attendance across the tutorials, the numbers of attendees were scaled in proportion, so where 50% of the apprentices attended the session and 50% of non-apprentices then that would show as equal proportions. Three sample sessions are shown as pie charts in Figures 1-3 to illustrate this.
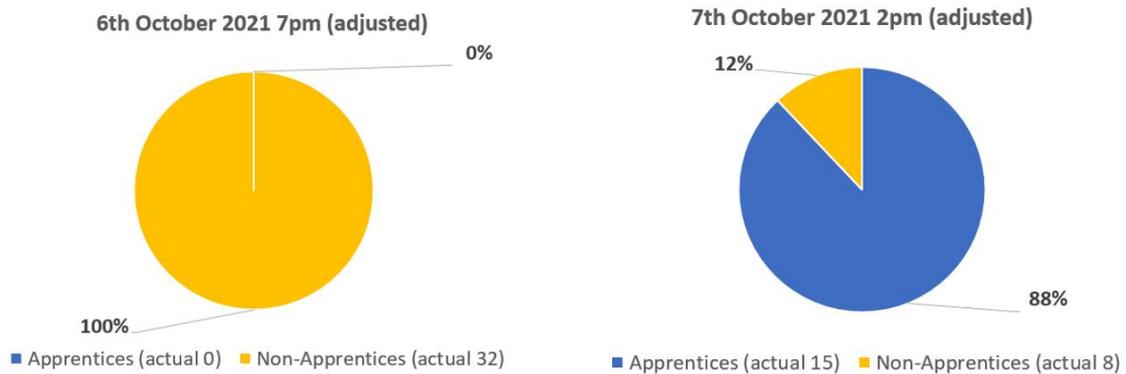
Introductory session

Figure 1 Introductory session

The introductory session is unusual in that it is the only session where students are encouraged to attend the version run by their own tutor (here that was the 7th October 2pm session for apprentices).   We can see that no apprentices attended the 7pm session. What was unexpected was that some (8) non-apprentices did attend the weekday afternoon session.
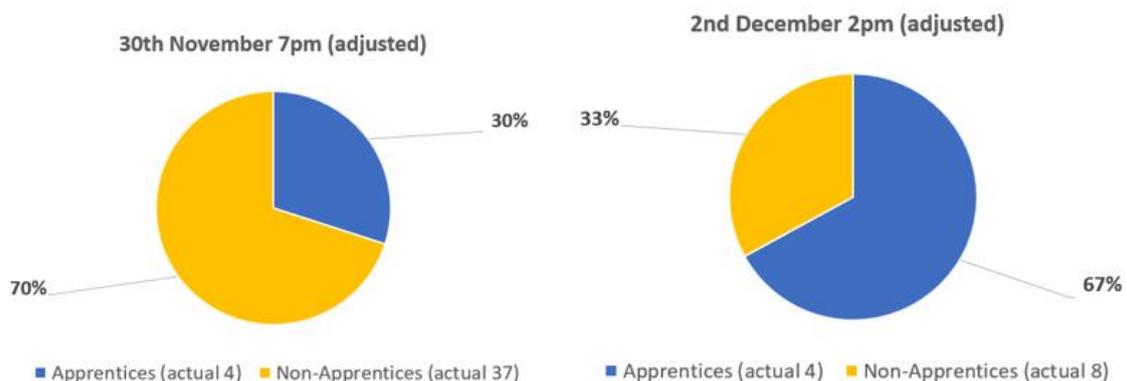
JavaScript Part 2

Figure 2 JavaScript Part 2

This was a session based in Block 2, so once the module was well under way. Block 2 is a more challenging block than Block 1 and tutorial attendance can have greater impact. It can be seen clearly that the proportion of apprentices at the daytime session on the right was approximately double the percentage at the corresponding evening session on the left.

It was expected that some apprentices would attend evening sessions, but the large (8) non-apprentice attendance at the daytime session was not anticipated and suggests that weekday daytime tutorials may also be of benefit to non-apprentices.
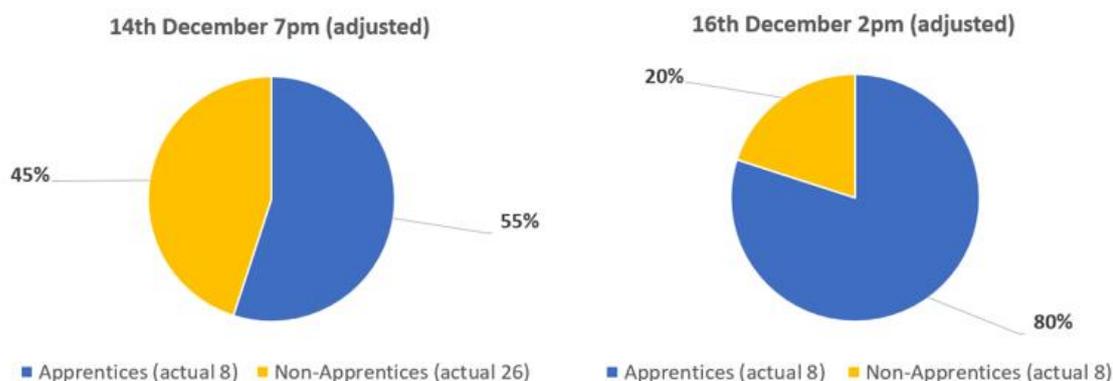
Figure 3 PHP & SQL - Getting started

Again, this was a block 2 session. It can be seen that the proportion of apprentices attending the daytime session is markedly higher than the evening session (approximately one and a half times more). As previously, the attendance of non-apprentices (8) at the weekday daytime session was unexpected.

Summary of attendance

Weekday daytime sessions

The apprentice attendance at weekday daytime sessions ranged from 18 to 1.   A total of 86 attendances over 9 sessions. That gives an average of 10 apprentice attendees per session.

As there were 60 apprentices that is from 30% to 2**% with an average of 17% attending.**

The non-apprentice attendance at weekday daytime sessions ranged from 13 to 4.   A total of 70 attendances over 9 sessions. That gives an average of 8 non-apprentice attendees per session.

As there were 290 non-apprentices that is from 4.5% to 1.5% **with an average of 3% attending.**

Weekday evening and Saturday sessions

The apprentice attendance at weekday evening/Saturday sessions ranged from 11 to 0.   A total of 103 attendances over 32 sessions. That gives an average of 3 apprentice attendees per session.

As there were 60 apprentices that is from 18% to 0% **with an average of 5% attending.**

The non-apprentice attendance at weekday evening/Saturday sessions ranged from 40 to 5.   A total of 568 attendances over 32 sessions. That gives an average of 18 non-apprentice attendees per session.

As there were 290 non-apprentices that is from 14% to 2% **with an average of 6% attending.**

All sessions combined

The apprentice attendance at all sessions ranged from 18 to 0.   A total of 189 attendances over 41 sessions. That gives an average of 5 apprentice attendees per session.

As there were 60 apprentices that is from 30% to 0% **with an average of 8% attending.**

The non-apprentice attendance at all sessions ranged from 40 to 4.   A total of 656 attendances over 41 sessions. That gives an average of 16 non-apprentice attendees per session.

As there were 290 non-apprentices that is from 14% to 1% **with an average of 6% attending.**

	Apprentices	Non-Apprentices
Weekday daytime	17%	3%
Weekday evening /Weekend	3%	5%
All sessions	8%	6%

Table1:   Summary of percentage attendance of apprentices and non-apprentices by tutorial type

Table1 demonstrates that apprentices are much more likely to attend weekday daytime sessions and slightly less likely to attend weekday evening /weekend sessions.   It also shows that overall, they are slightly more likely to attend tutorials.

Full results

The full table of session attendance is in Appendix A. Weekday daytime sessions are noted with a Y in the appropriate column and presented in bold and blue. These are the sessions we expected to be more suitable for apprentices. The table is sorted chronological order.

The same table is repeated in Appendix B presented in descending order of apprentice attendance. There, it can be clearly seen that the weekday daytime sessions are more popular with apprentices as these sessions (in bold and blue) cluster at the top of the list, whilst the vast majority of evening and weekend session, are lower on the list.

Once more it should be noted that non-apprentices also attend the weekday daytime sessions.

Evaluation of the data

There is a clear preference amongst apprentices for weekday sessions as predicted by TMXY130 survey findings and it is this felt that this justifies continuation of the practice of allocating daytime sessions in modules with a high presence of apprentices.

What was less expected was a significant proportion of non-apprentices also attend weekly daytime sessions. This may reflect the change in typical working patterns over the years with nine to five, Monday to Friday being less common, but may also be driven by increased home working during the pandemic giving students extra flexibility. The use of these sessions by non-apprentices adds weight to the recommendation that weekday, daytime sessions should be more widely scheduled.

Confounding Factors

Cluster attendance records (Appendix C) from current presentation show that students exhibit a strong preference to attend sessions run by their own tutor.   This supports anecdotal evidence from tutors that this is the case.   Note data is limited as this was not collected as part of the project.

In this study, the only two weekday daytime sessions held by tutors to whom the apprentices were not allocated both had lower apprentice attendance and so it is possible that the remaining attendance figures are distorted upwards because the daytime sessions were primarily hosted by the tutor to whom the majority of apprentices were allocated.

Recommendations

This confounding factor was avoided in the previous work in TMXY130 as the same tutor provided a daytime and evening session on the same day.   In that work the attendance was overwhelmingly in favour of daytime sessions where here the difference was pronounced, but more muted. It is recommended that in a future study consideration be given to providing alternative session times hosted by the same tutor to mitigate this confounding factor.

Based on the findings that weekday, daytime sessions are well attended by apprentices, but also by non-apprentices, it is recommended that consideration be given to scheduling sessions at these times more widely.

Conclusion

The conclusion seems clear that daytime weekday tutorials are a valuable addition to the student support both for apprentices and for non-apprentices and that their scheduling should be continued, where possible.

References

Thomson, C., Carter, M, & McIntyre, D, (2022) Survey on tutorials attendance for apprentices.

Carter M. & Thomson C. (2020) *Day time tutorials for apprentices – what is best practice in computing? Available at:* https://www.open.ac.uk/about/teaching-and-learning/esteem/sites/www.open.ac.uk.about.teaching-and-learning.esteem/files/files/2020-05-04-Chris-Thomson-Marina-Carter.pdf *(Accessed 7th November 2021)*

Appendix A (Chronological order)

Date (* data presented in pie charts)	Time	Tutor	Weekday Daytime?	Apprentice attendees	Non-apprentice	Apprentices (adjusted)	Non-Apprentices
10th October (Sat)	10:30-12:30	Tutor2 and Tutor7	N	2	10	44%	56%
12th October	19:00-21:00	Tutor5 and Tutor6	N	6	16	60%	40%
14th October	19:00-21:00	Tutor4 and Tutor3	N	7	23	55%	45%
15th October	**14:00-16:00**	**Tutor1**	**Y**	**13**	**13**	**80%**	**20%**
22nd October	19:00-21:00	Tutor4 and Tutor6	N	9	39	48%	52%
24th October (Sat)	10:30-12:30	Tutor4	N	1	11	27%	73%
27th October	19:00-21:00	Tutor4 and Tutor1	N	11	31	59%	41%
28th October	**14:00-16:00**	**Tutor1**	**Y**	**18**	**8**	**90%**	**10%**
31st October (Sat)	10:30-12:30	Tutor3	N	0	14	0%	100%
6th October *	19:00-21:00	Tutor3 and Tutor4	N	0	32	0%	100%
7th October *	**14:00-16:00**	**Tutor1**	**Y**	**15**	**8**	**88%**	**12%**
18th November	19:00-21:00	Tutor5 and Tutor6	N	9	40	47%	53%
21st November (Sat)	10:30-12:30	Tutor1	N	6	12	67%	33%
30th November *	19:00-21:00	Tutor5	N	4	37	30%	70%
5th November	19:00-21:00	Tutor3 and Tutor6	N	2	16	33%	67%
14th December *	19:00-21:00	Tutor4	N	8	26	55%	45%
16th December *	**14:00-16:00**	**Tutor1**	**Y**	**8**	**8**	**80%**	**20%**
2nd December *	**14:00-16:00**	**Tutor1**	**Y**	**4**	**8**	**67%**	**33%**
12th January	19:00-21:00	Tutor3 and Tutor7	N	3	27	31%	69%
13th January	**14:00-16:00**	**Tutor1**	**Y**	**11**	**11**	**80%**	**20%**
16th January (Sat)	10:30-12:30	Tutor6 and Tutor7	N	0	9	0%	100%
21st January	19:00-21:00	Tutor3 and Tutor6	N	1	10	29%	71%
5th January	19:00-21:00	Tutor2 and Tutor6	N	4	33	33%	67%
9th January (Sat)	10:30-12:30	Tutor3	N	1	7	36%	64%
10th February	19:00-21:00	Tutor2 and Tutor7	N	2	19	30%	70%
13th February (Sat)	10:30-12:30	Tutor1	N	1	9	31%	69%
1st February	19:00-21:00	Tutor4 and Tutor7	N	5	22	48%	52%
22nd February	19:00-21:00	Tutor5 and Tutor3	N	2	16	33%	67%
24th February	**14:00-16:00**	**Tutor1**	**Y**	**9**	**4**	**90%**	**10%**
27th February (Sat)	10:30-12:30	Tutor4	N	0	8	0%	100%
3rd February	**14:00-16:00**	**Tutor3**	**Y**	**1**	**5**	**44%**	**56%**
18th March	19:00-21:00	Tutor2	N	2	15	35%	65%
27th March (Sat)	10:30-12:30	Tutor2	N	3	12	50%	50%
29th March	19:00-21:00	Tutor1 and Tutor7	N	4	14	53%	47%
4th March	19:00-21:00	Tutor4 and Tutor3	N	3	9	57%	43%
12th April	19:00-21:00	Tutor4	N	3	18	40%	60%
14th April	**14:00-16:00**	**Tutor1**	**Y**	**7**	**6**	**82%**	**12%**
12th May	**14:00-16:00**	**Tutor4**	**Y**	**1**	**4**	**50%**	**50%**
15th May (Sat)	10:30-12:30	Tutor6	N	0	7	0%	100%
27th May	19:00-21:00	Tutor3 and Tutor4	N	2	5	62%	38%
4th May	19:00-21:00	Tutor5 and Tutor7	N	1	16	20%	80%

Appendix B (Order by adjusted apprentice attendance)

Date (* data presented in pie charts)	Time	Tutor	Weekday Daytime?	Apprentice	Non-apprentice attendees	Apprentices (adjusted)	Non-Apprentices (adjusted)
28th October	**14:00-16:00**	**Tutor1**	**Y**	**18**	**8**	**90%**	**10%**
24th February	**14:00-16:00**	**Tutor1**	**Y**	**9**	**4**	**90%**	**10%**
7th October *	**14:00-16:00**	**Tutor1**	**Y**	**15**	**8**	**88%**	**12%**
14th April	**14:00-16:00**	**Tutor1**	**Y**	**7**	**6**	**82%**	**12%**
15th October	**14:00-16:00**	**Tutor1**	**Y**	**13**	**13**	**80%**	**20%**
16th December *	**14:00-16:00**	**Tutor1**	**Y**	**8**	**8**	**80%**	**20%**
13th January	**14:00-16:00**	**Tutor1**	**Y**	**11**	**11**	**80%**	**20%**
21st November (Sat)	10:30-12:30	Tutor1	N	6	12	67%	33%
2nd December *	**14:00-16:00**	**Tutor1**	**Y**	**4**	**8**	**67%**	**33%**
27th May	19:00-21:00	Tutor3 and Tutor4	N	2	5	62%	38%
12th October	19:00-21:00	Tutor5 and Tutor6	N	6	16	60%	40%
27th October	19:00-21:00	Tutor4 and Tutor1	N	11	31	59%	41%
4th March	19:00-21:00	Tutor4 and Tutor3	N	3	9	57%	43%
14th October	19:00-21:00	Tutor4 and Tutor3	N	7	23	55%	45%
14th December *	19:00-21:00	Tutor4	N	8	26	55%	45%
29th March	19:00-21:00	Tutor1 and Tutor7	N	4	14	53%	47%
27th March (Sat)	10:30-12:30	Tutor2	N	3	12	50%	50%
12th May	**14:00-16:00**	**Tutor4**	**Y**	**1**	**4**	**50%**	**50%**
22nd October	19:00-21:00	Tutor4 and Tutor6	N	9	39	48%	52%
1st February	19:00-21:00	Tutor4 and Tutor7	N	5	22	48%	52%
18th November	19:00-21:00	Tutor5 and Tutor6	N	9	40	47%	53%
10th October (Sat)	10:30-12:30	Tutor2 and Tutor7	N	2	10	44%	56%
3rd February	**14:00-16:00**	**Tutor3**	**Y**	**1**	**5**	**44%**	**56%**
12th April	19:00-21:00	Tutor4	N	3	18	40%	60%
9th January (Sat)	10:30-12:30	Tutor3	N	1	7	36%	64%
18th March	19:00-21:00	Tutor2	N	2	15	35%	65%
5th November	19:00-21:00	Tutor3 and Tutor6	N	2	16	33%	67%
5th January	19:00-21:00	Tutor2 and Tutor6	N	4	33	33%	67%
22nd February	19:00-21:00	Tutor5 and Tutor3	N	2	16	33%	67%
12th January	19:00-21:00	Tutor3 and Tutor7	N	3	27	31%	69%
13th February (Sat)	10:30-12:30	Tutor1	N	1	9	31%	69%
30th November *	19:00-21:00	Tutor5	N	4	37	30%	70%
10th February	19:00-21:00	Tutor2 and Tutor7	N	2	19	30%	70%
21st January	19:00-21:00	Tutor3 and Tutor6	N	1	10	29%	71%
24th October (Sat)	10:30-12:30	Tutor4	N	1	11	27%	73%
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6th October *	19:00-21:00	Tutor3 and Tutor4	N	0	32	0%	100%
31st October (Sat)	10:30-12:30	Tutor3	N	0	14	0%	100%
16th January (Sat)	10:30-12:30	Tutor6 and Tutor7	N	0	9	0%	100%
27th February (Sat)	10:30-12:30	Tutor4	N	0	8	0%	100%
15th May (Sat)	10:30-12:30	Tutor6	N	0	7	0%	100%

Appendix C

Data from one tutor in a cluster with 317 students across 7 tutors. 57 students allocated to this tutor (18%)

Date	Time	Day	Total attendance	Attendance presenting tutor's own students	Percentage of own students
6/10/21	19:00-21:00	Wednesday	22	16	73%
27/10/21	14:00-16:00	Wednesday	9	6	67%