

Using interactive, video learning with AI to improve soft skills acquisition

Evaluation report

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Institute for Employment Studies

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1 Introduction

This report covers evidence from the development, implementation and early evaluation of a new soft skills learning package. The package mobilised interactive video, with an opportunity to engage in a job interview and gain feedback using an artificial intelligence (AI) resource. This aimed to help learners better understand the importance of soft skills and how they are demonstrated during the job interview process. The purpose of this report is to assess the implementation and effectiveness of the pilot, which represents the last month of an eight-month development project, with a strong focus on how to improve implementation of the soft skills training tool among disadvantaged learners.

1.1 Rationale for the learning package

Making a good first impression at job interviews matters and applicants do not have much time before the first impression is formed. Research by Janine Willis and Alexander Todorov published in the *Association of Psychological Science* journal in July 2006 indicates that interview panels form their first impression within a few seconds and having been formed, this impression is hard to change¹. When trying to create a good first impression at job interviews, those from disadvantaged backgrounds face hidden biases. Content from Forbes (2019) highlights how interviewers can spot socioeconomic level nearly immediately, leading to snap decisions about competency for job roles, and bias in hiring processes as interviewers tend to select job applicants from higher social classes in comparison to other candidates².

Nonetheless, long-standing evidence – for example, in the UK Employer Skills Surveys – demonstrates that employers say they are amenable to recruiting candidates who exhibit employability skills, soft skills and positive attributes, as they believe they can train people in the required technical skills. Given the biases that can emerge in the recruitment process, it can be judged that young people from disadvantaged backgrounds need additional support to ensure they create the right first impression, and show they understand the role of soft skills when they are invited to job interviews.

At the time when this project was first being discussed in spring 2020, based on data from 2019, the UK was nearing full employment, and higher than ever rates of education participation. Nonetheless, those most disadvantaged were still more likely to be left behind (Newton et al, 2020; Buzzeo et al, 2019) with disadvantage often indicated by low socioeconomic level alongside factors including experience of the care system, being from a minority ethnic group, having learning disabilities or difficulties, or being neuro-diverse and/or having experience of the criminal justice system, amongst others. In 2021, the risks for disadvantaged groups worsened with the effects of the pandemic on the labour market. Covid-19 initially hit hard at the heart of the youth labour market, with key sectors that young people work in closed down and opportunities to make successful

¹ <https://www.psychologicalscience.org/observer/how-many-seconds-to-a-first-impression>

² <https://www.forbes.com/sites/jackkelly/2019/10/28/class-bias-interviewers-will-hire-and-pay-more-for-a-job-applicant-from-a-higher-social-class-compared-to-a-lower-status-candidate/?sh=6d631f13471c>

transitions constrained making the recruitment process more competitive and meaning effective transitions are less assured. While the latest data indicate that many young people have sheltered in education rather than enter the labour market, when they do seek employment they may still face obstacles.

The learning package could provide a new way forward, through ensuring young people shine during interviews – extending beyond typical ‘employability skills’ advice, to delivering engaging, interactive content that helps young people to readily identify the first impression created by particular behaviours. Beyond this, it offers them a chance to perform in an interview to see the first impression they are creating. It is targeted at supporting young people to perform better during face-to-face or zoom interviews where they and interviewers take part at the same time (ie synchronously).

This was the motivation for A-dapt, the developer of the learning package, to apply its technology to support disadvantaged young people to acquire soft skills so that they would have an edge during recruitment interviews. A-dapt approached IES for evaluation support at the time it was planning to apply to Innovate UK for grant funding to develop and test whether AI could play a positive role in educating young people in interview skills. A-dapt had already identified that Nacro learners could be a key audience for the software and so brought Nacro on board at the same time. A-dapt had already developed an AI tool to support young children to better concentrate while learning at home during lockdown. The soft skills package – which would include interactive video learning alongside the AI – was an opportunity to test this new technology in a new context.

1.2 About the soft skills interview training tool

A-dapt have invented an online immersive, Edge AI (artificial intelligence)-based perceptive video format called Adaptive-media® which aims to improve the learning experience and better humanise screen-based interactive training.

The prototype, A-dapt’s Adaptive-media® Soft Skills Interview Training Tool (SSITT), was developed over a seven-month period (November 2020 – May 2021) with the aim to be a revolutionary new way to learn how to do job interviews. It was designed specifically to meet the needs of Nacro students, who can be amongst the most marginalised in our society, to overcome the specific soft skills barriers they encounter at job interviews. It is a unique combination of Edge Emotion AI and immersive interactive video combined with expert input on soft skills to create the Soft Skills Interview Training Tool. In essence, with the tool, students undertake a learning experience and use an interview simulator which can give them feedback on some elements of their performance during the interview.

Interactive video

The interactive video requires interaction with the viewer (in our case, learners), as it responds to their facial expression and emotions. These activate pre-set events in branching ‘nodes’ within the package to trigger digital video content, resulting in a responsive and immersive experience. A-dapt note the following potential benefits:

- It works within a browser on any online device.

- Interactivity improves engagement and retention of the viewer through immersion. Throughout the learner journey, interactive elements can help to bring training alive and make it memorable.
- It can be used by the learner alone (remote learning) or as part of a classroom-based experience (blended learning).

Edge-based Emotional AI

Based on a Deep Neural Network (DNN), the Edge based Emotional AI can detect the following through the web browser: six different emotions; over 25 moods; over 40 different facial features; age estimation; as well as the users' attention, pose and valence (the extent to which an emotion is positive or negative). There is no filming or recording and the technology is fully General Data Protection Regulation (GDPR) compliant. A-dapt used this to build the adaptive-media SSITT, so that it responds to viewers in real-time, based upon their attention and positivity.

The Edge based Emotional AI is based on prior academic literature on facial emotions. One of the pioneers of this was American psychologist Paul Ekman who discovered that some facial expressions of emotion are universal while many of the apparent differences in facial expressions across cultures were due to context. The science behind the Edge based Emotional AI include, in addition to Ekman (1999³), include Russell, Lewicka, & Niit (1989⁴), Russell, 1980⁵), Scherer (2005⁶) and Paltaglou and Thelwall (2013⁷)

Developing the learning package

The interactive video and Edge based Emotional AI were combined into the soft skills interview training tool (SSITT). To determine the optimal content, students were engaged by the soft skills expert early in the development process to understand their experience of interviews and where the learning package could make the most difference. This was also a chance to discuss their career goals to find common ones that would engage students. An assessment was also conducted on the functional skills level of Nacro learners to ensure the package content would be accessible to them. The soft skills expert then supported the design of training content that would ensure learners could access key information about being successful in interviews such as personal presentation, and how to answer questions appropriately. This also helped to identify where the simulator (the Edge based Emotional AI that can detect emotion, moods, attention, pose and valence) could best focus. This related to a learner's attention during the interview and their positivity with the AI which could then provide ratings based on these dimensions based on the learner's simulated interview.

Ekman.P (1999) Basic Emotions. Handbook of Cognition and Emotion, 98,(45-60), 16

⁴ Russell, J.A., Lewicka, M. and Niit, T., 1989. A cross-cultural study of a circumplex model of affect. Journal of personality and social psychology, 57(5), p.848.

⁵ Russell, J.A., 1980. A circumplex model of affect. Journal of personality and social psychology, 39(6), p.1161.

⁶ Scherer.K (2005) What are emotions? And how can they be measured? Soc Sci Inf 44: 695-729. Social Science Information. 44.695-792.

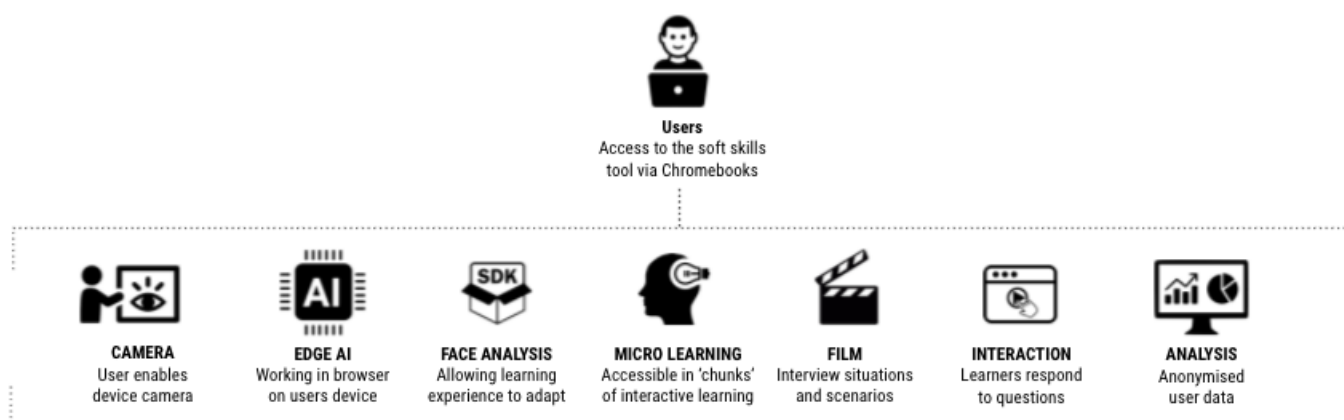
⁷ Paltaglou.G and Thelwall.M (2013) Seeing stars of Valence and Arousal in Blog Posts, in IEE Transactions on Affective Computing, vol 4, no.1, pp. 116-123, Jan-March 2013, doi: 10.1109/T-AFFC.2012.36.

Following its development, the learning package was then piloted in two Nacro learning centres to understand student and staff reactions, and whether using the package made a difference to soft skills outcomes.

Piloting the soft skills interview training tool

The pilot took place in two Nacro learning centres, where students could receive support from their tutors, eg to log into the learning package. In the pilot, Nacro students used Chromebooks to access the SSITT, via the Google Chrome browser and used the built-in webcam to interact with a variety of characters and interactive video elements on screen. They accessed the learning experience and used the simulator only after they had completed a first student self-evaluation form – developed by the evaluation team – and a first Zoom interview with the A-dapt soft skills expert. For the pilot, the learning experience and simulator were combined, however in commercialisation it is proposed that these aspects may be disaggregated.

Figure 2 Features of the SSITT prototype



Source: Adapt Soft Skills Interview Training Tool

There were three parts to the pilot SSITT:

Part 1 – The job choice (completed in week 1)

Students were asked to login into the SSITT to review short videos then select a job opportunity which would be used as the basis for the interview learning and evaluation process. They were asked to choose one of four fictional jobs. These were:

- a management trainee at Baxter's Bakers;
- a management trainee at BRR Construction;
- a carer at Little Angel Childcare; and
- an opportunity to be part of Yellowhammer, a start-up company.

Part 2 – The learning experience (completed in week 2)

There were three parts to the learning experience which involved the students interacting with characters onscreen as various scenarios are presented. This was the interactive

video-based training. The videos included examples of interviewees answering questions in different ways. The package then asked students questions giving them answer options on the best way to succeed in an interview. This was presented as follows:

Welcome section: Students experienced a welcome video before being asked the following question: ‘Have you ever done a job interview before?’

What to say section: Students were invited to watch a video on what to say in an interview and given further tips and advice on this theme. Students were given different scenarios and were invited to answer five questions.

Getting ready: Students were given advice on how to make a good first impression, how to manage nerves and stay positive when in an interview. This included being invited to answer four questions on first impressions, managing nerves and positive impressions.

A walk through the learning experience

Nacro Students log-in securely, and are introduced to the course by two co-hosts.



To start, students are asked questions on how they feel about interviews.



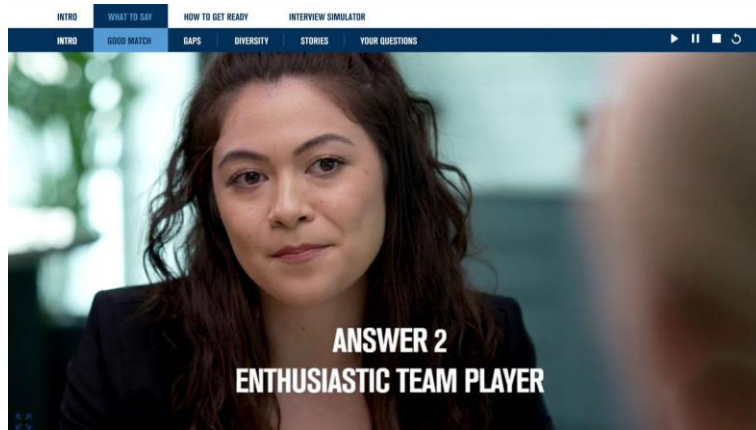
The first section of the interactive video training focuses on what to say in an interview.



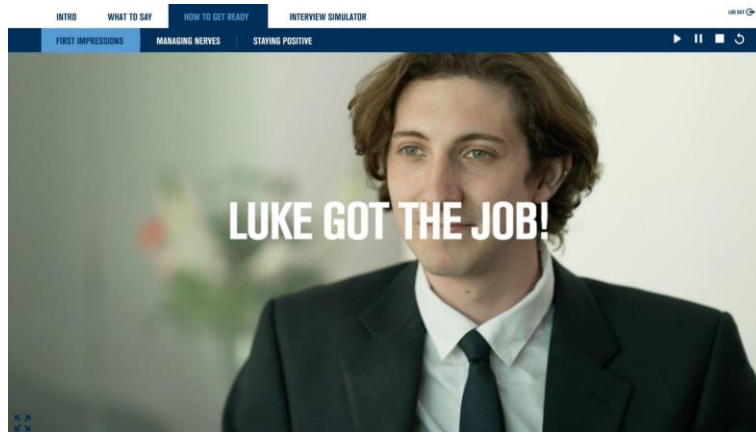
Nacro students then evaluate how well the actors have answered the questions, learning for themselves in this process.



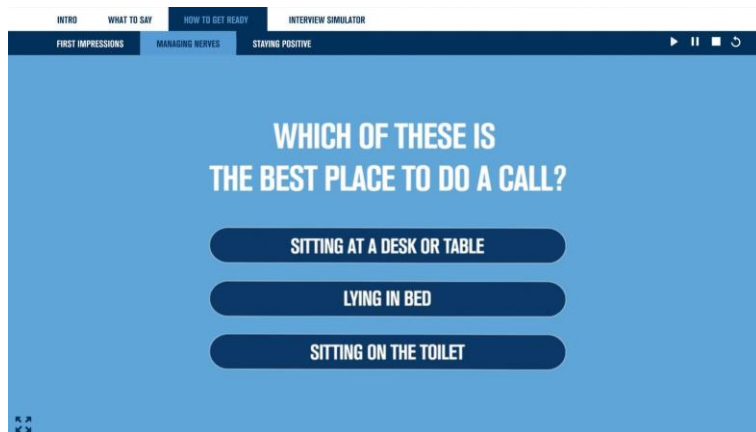
The students decide which is the best answer to give the interviewer.



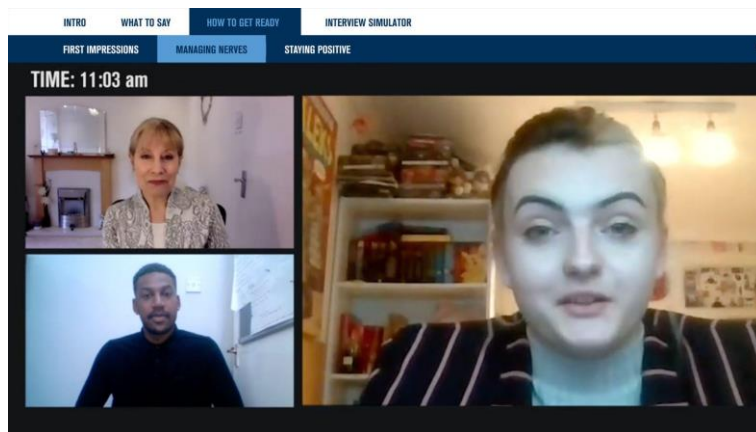
They see how interviews can be improved by proper preparation, such as how to get ready.



The training also covers how to prepare for video call-based interviews.



It also introduces techniques and tricks for managing issues such as interview nerves.



Part 3 – The interview simulator (completed in week 2)

This part consists of a positive interview trainer, the interview simulator and a certificate of completion with feedback.

Positive interview trainer

Students were invited to watch a video and then to switch on their camera. They could practice smiling and see their attention and positivity scores on the screen.

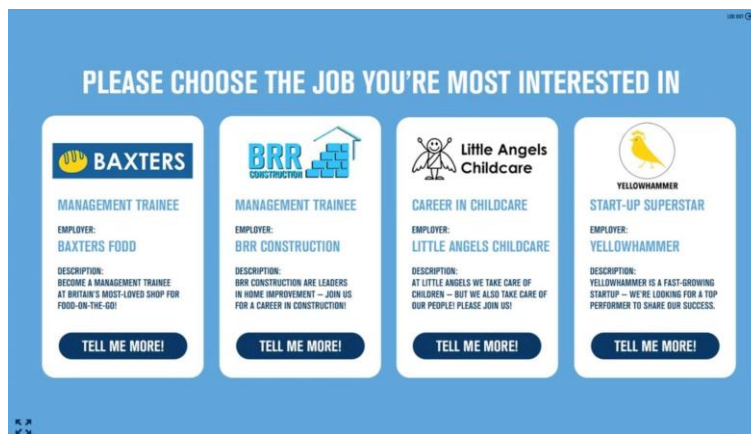
Interview simulator

This section was estimated to last for about 10-15 minutes, and students were asked to use it three times by their tutor. This aimed to increase their chances of improving on their attention and positivity score rating from the first interview in week one. The job choice that they originally made was used to generate questions for them. They were asked four questions in each session. At the end of three sessions students were able to see their best attention and positivity score in the form of a number of stars on screen (either three, four or five stars).

In the interview training simulator, the device camera looks at the learner, just like an interviewer would. It gives guidance on looking positive and paying attention, crucial to a successful interview. The prototype combines interactive video, with a live window for the user to see themselves and an innovative real-time positivity and attention feedback 'bar'.

A walk through the interview simulator

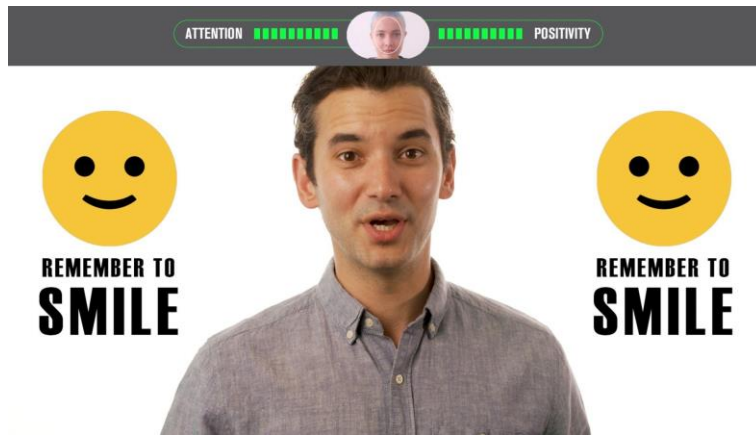
Students select the type of job that most appeals to them, based on three example career choices and options available as well as a 'catch all' start-up role.



They are given a video introduction to the job by an interviewer, who later interviews them for that role in the interview simulator.



The co-hosts explain to the students how to use the interview simulator and prepare.



The interview simulator features pre-recorded interviewers asking questions, a live feed of the interviewee and an attention and positivity user interface (UI) bar meter with on screen reminders to encourage students to appear positive and attentive.



Students who undertake the simulator are given certificates which included their best average attention and positivity scores.



Access a demo version

A-dapt has published a demo that can be access from the following link:
<https://a-dapttraining.com/>

1.3 Structure of report

The remainder of this report is structured as follows:

- Section 2 details the evaluation methodology, including details on the primary and secondary outcomes, this is followed by a subsection focused on potential risks and actions prior to implementing the pilot.
- Section 3 discusses the implementation of the pilot and whether foreseen risks were realised.
- Section 4 presents the findings from tutor interviews.
- Section 5 presents the findings from learner interviews.
- Section 6 presents the quantitative findings of the evaluation.
- Section 7 discusses key learnings for the future of the SSITT.

2 Evaluation methodology

2.1 Evaluation design

The evaluation was designed to measure the impact of using the SSITT through a randomised controlled trial (RCT). An RCT is a study in which a number of similar people are randomly assigned to two (or more) groups to test an intervention. One group (the experimental or treatment group) has the intervention being tested, the other (the control group) has no intervention at all. The groups are followed up to see how effective the experimental intervention was. Outcomes are measured at specific time points and any difference in response between the groups is assessed statistically. This randomisation element aims to reduce bias, ie selecting more able learners into the treatment group could result in upward bias estimates of the effectiveness of the software. Randomisation was undertaken at an individual level.

Alongside the RCT, there was a process evaluation which focused on implementation and a compliance element (an assessment of use of the learning package) to the evaluation to capture the effects of this new form of learning for the Nacro group. The approach was intended to provide sufficient insight to know if the A-dapt learning package should be trialled at a larger scale.

Research question

The evaluation seeks to answer the following question:

Does the A-dapt interview skills learning package improve Nacro learners' interview skills (with primary and secondary outcomes centred on confidence, and preparation, positivity and attention during interviews), following a maximum of one-week undertaking the training?

Randomised controlled trial design

Learners were randomised into three groups across the two sites. Group A would receive the interview skills training (treatment group) in week one, whereas Group B would not (control group). Group C were on hand should any Group A learners withdraw or fail to turn up in weeks one or two (reserve treatment group). Groups A and B were designed to contain 20 students each (10 in each Nacro learning centre) and Group C, 10 students (five across each centre). Despite not receiving the treatment, students in Group B would use the SSITT to make a job choice in week one. Baseline information on the characteristics of all learners recruited to the pilot were collected.

Learners had the pilot explained to them by their tutors and were supplied with written information about the pilot and the evaluation. Upon reading the written information learners were provided with easily accessible agreement forms to give their consent to participate in the pilot (these are presented in Appendix D and E respectively).

Table 2.1 Trial design

Group	Week 1		Week 2	Week 3	
	Baseline questionnaire	Baseline interview	Activity	Post questionnaire	Post interview
A			Treatment for interview skills		
B			No training for interview skills		
C			No training for interview skills OR Treatment for interview skills if there is a dropout in Group A		

Source: IES

2.2 Primary outcomes

Within the student questionnaire there were three Likert-type scale questions which were the primary outcomes for the evaluation. Students were asked to tick the box most relevant to them (questionnaire presented in Appendix C), asking for help when they did not understand.

2.2.1 General self-efficacy

Firstly, learners were asked about their general self-efficacy using the General Self Efficacy Scale (GSEF) first developed in German by Schwarzer & Jerusalem in 1979 which has since been translated into English (the version used in this evaluation is from 1995⁸). The General Self Efficacy Scale has been widely used in academic research and measures individuals' belief in their ability to perform well in a variety of situations. The concept of perceived self-efficacy is where one can perform novel or difficult tasks, or cope with adversity in various aspects of everyday life, including in interviews. Each item of the scale refers to successful coping. Perceived self-efficacy is related to subsequent behaviour and behaviour change. The GSEF items are focused on problem solving and handling situations which align with what you would expect from this form of training.

2.2.2 Interviewing self-efficacy

Learners were then asked about their interviewing self-efficacy in a scale first used in Smith et al 2014⁹, to assess the impact of virtual reality job interview training in adults with

⁸ Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, Measures in health psychology: A user's portfolio. Causal and control beliefs (pp. 35-37). Windsor, UK: NFER-NELSON.

⁹ Smith, M.J., Ginger, E.J., Wright, K., Wright, M.A., Taylor, J.L., Humm, L.B., Olsen, D.E., Bell, M.D. and Fleming, M.F., 2014. Virtual reality job interview training in adults with autism spectrum disorder. Journal of

autism spectrum disorder. Within this measure, learners rated their confidence in performing job interviews using a 7-point Likert scale (ranging from extremely comfortable to extremely uncomfortable) to answer nine questions (eg ‘How comfortable are you going on a job interview?’; ‘How skilled are you at making a good first impression?’; and ‘How skilled are you at maintaining rapport throughout the interview?’). Smith and co-authors have used this scale in several small-scale interventions testing virtual reality job interview training with a variety of young adult groups in need of interview support as they aim to enter employment, many of whom have learning difficulties (Smith et al (2015)¹⁰; Smith et al (2021)¹¹). The scale in each instance reported high levels of reliability (as measured by Cronbach's alpha).

2.2.3 Intrinsic motivation

Finally, students were asked questions centred around intrinsic motivation using questions posed in a prior trial of AI interview skills software (Smith et al. 2020¹²). These were derived from the Intrinsic Motivation Inventory (IMI) (Ryan, 1982¹³), a multidimensional measurement device intended to assess participants' subjective experience related to a target activity in laboratory experiments. It has been used in several experiments related to intrinsic motivation and self-regulation. In total, in the IMI there are 45 items which make up seven subscales. The subscales focused on within the questions captured in this study centre on interest and enjoyment, value and usefulness, pressure, and tension as well as perceived choice.

2.3 Secondary outcomes

Secondary outcomes in the evaluation come from two main sources. As previously mentioned, A-dapt's soft skills expert interviewed all Nacro students in weeks one and three remotely via Zoom. These interviews were recorded and then put through the SDK AI Testbed, as presented in Figure 5.

autism and developmental disorders, 44(10), pp.2450-2463.

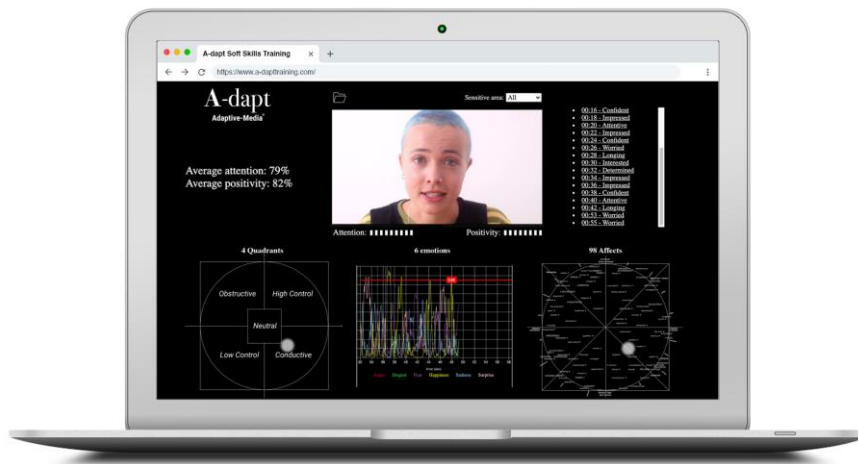
¹⁰ Smith, M.J., Boteler Humm, L., Fleming, M.F., Jordan, N., Wright, M.A., Ginger, E.J., Wright, K., Olsen, D. and Bell, M.D., 2015. Virtual reality job interview training for veterans with posttraumatic stress disorder. *Journal of vocational rehabilitation*, 42(3), pp.271-279.

¹¹ Smith, M.J., Smith, J.D., Jordan, N., Sherwood, K., McRobert, E., Ross, B., Oulvey, E.A. and Atkins, M.S., 2021. Virtual Reality Job Interview Training in Transition Services: Results of a Single-Arm, Noncontrolled Effectiveness-Implementation Hybrid Trial. *Journal of Special Education Technology*, 36(1), pp.3-17.

¹² Smith, M.J., Mitchell, J.A., Blajeski, S., Parham, B., Harrington, M.M., Ross, B., Sinco, B., Brydon, D.M., Johnson, J.E., Cuddeback, G.S. and Smith, J.D., 2020. Enhancing vocational training in corrections: A type 1 hybrid randomized controlled trial protocol for evaluating virtual reality job interview training among returning citizens preparing for community re-entry. *Contemporary Clinical Trials Communications*, 19, p.100604.

¹³ Ryan, R.M., 1982. Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of personality and social psychology*, 43(3), p.450.

Figure 5 Software implementation and creation of a AI test bed



Source: SDK AI Testbed

The SDK data from the baseline and second interviews measures positivity and attention of the learner, and this is recorded for all individuals. In addition, the SDK measures the individual emotions of the learners. In total, 38 dimensions could be recorded, however only those which were experienced by the learner were measured. The emotions are presented in a two-dimensional circumplex space model (based on Russell, 1980¹⁴), with levels of arousal/activation on the y axis and levels of valence (a pleasure–displeasure continuum) on the x axis. These are split into four quadrants: Obstructive, Low Control, High Control and Conductive. The affects / moods, which were measured within each quadrant, are presented in Table 2.2.

Table 2.2 Emotions recorded from the learner interviews using the SDK AI testbed

High Control	Conductive	Low Control	Obstructive
Amused	Calm	Anxious	Afraid
Astonished	Contemplative	Apathetic	Angry
Conceited	Content	Bored	Annoyed
Convinced	Feel Well	Depressed	Discontented
Delighted	Hopeful	Disappointed	Distressed
Determined	Impressed	Embarrassed	Enraged
Excited	Peaceful	Melancholic	Frustrated
Happy	Pensive	Sad	
	Pleased	Tired	
	Relaxed	Uncomfortable	
	Satisfied	Worried	

¹⁴ Russell, J.A., 1980. A circumplex model of affect. Journal of personality and social psychology, 39(6), p.1161.

The emotions recorded by the soft skills expert differ to those recorded when running the interviews through the SDK AI testbed (as shown in Table 2.3). There were fewer (22 compared to 38) to reduce burden on the soft skills expert, as well as only 11 which are consistent between the two data sources. Therefore, the overall results for attention and positivity as well as the individual emotions are not comparable between these two sources of data.

Table 2.3 Emotions recorded from the learner interviews by the soft skills expert

High Control	Conductive	Low Control	Obstructive
Ambitious	Confident	Apathetic	Afraid
Enthusiastic	Attentive	Bored	Angry
Passionate	Polite	Depressed	Annoyed
Interested	Friendly	Hesitant	Frustrated
Happy	Content	Uncomfortable	Impatient
Self-confident	Conscientious	Worried	Suspicious
	At ease		

Source: Adapt Soft skills expert

2.4 Potential risks and mitigating actions

There were a number of potential risk factors associated with implementing the trial. This section briefly describes these risks and discusses the mitigating actions taken.

Treatment contamination is a specific risk when implementing randomised control trials. It occurs when there is inclusion of an individual or group of respondents in a treatment (intervention) group who are not supposed to receive the treatment. This can occur when participants in a control group inadvertently receive treatment, thereby reducing the effects of the treatment on outcome measures¹⁵. In our study this could increase the likelihood of a reduction in the sample and means without sufficient control participants it undermines the ability to identify impact. Prior to randomisation, power calculations were undertaken to ensure the total pilot was of a suitable sample size to detect impact, however small enough so that the pilot was feasible in practice at the Nacro centres.

Focusing on the SSITT pilot, a key risk for the evaluation was that it could be difficult to recruit sufficient students to the trial, from a range of ages, abilities (basic skills), subjects and locations. As the evaluation took place during June, the final month of term, there was no guarantee that the students who said they would participate would engage in all activities. Many Nacro students live in difficult circumstances that sometimes affect

¹⁵ Randomized Controlled Trials (RCTs)- Unicef (2014) https://www.unicef-irc.org/publications/pdf/brief_7_randomized_controlled_trials_eng.pdf (Accessed on 19th July 2021)

reliable attendance. In addition, many were completing final assessments and starting to search for jobs, which would also affect their attendance. This was mitigated by recruiting a diverse range of 50 students across the two learning centres with aims that this would enable a large enough sample to detect impact, given the expected attrition. Nacro tutors had staff to encourage students to participate and A-dapt incentivised the students with a quality certificate and a £10 food voucher upon completing the second interview.

Ideally the pilot would be held earlier in the academic year. Conducting the pilot during the summer term meant there were many competing events in the Nacro Education calendar. These included: students having to complete their portfolios and courses; some students having to complete Functional Skills Exams; tutors having to complete their end of year subject results reporting; and one centre having both an open day and field trip during the pilot period. In addition, half term happened just prior to the pilot, which ideally would have been the time to prepare both tutors and students. The poor timing of the pilot was likely to also affect the stress levels of the students and the tutors.

Participation in the pilot was voluntary and the potential benefits of the learning experience and simulator were clearly identified to the learners. Ultimately the timing of the project (November 2020 – June 2021) meant that the pilot had to happen in June, after the SSITT had been fully developed.

At the outset of the project a one-week pilot was planned. Unfortunately, because of the lack of guaranteed access to students across this short period, where the student could undertake all elements of the pilot, a duration of three weeks was seen as more practical. The learning experience was planned to be taken a week before the second interview with the soft skills expert. Students needed to engage in many other activities in June so the pilot needed to fit around these.

Prior to the pilot it was identified that some students might feel the learning experience was too lengthy. It was estimated to take around 50 minutes. The risk was that if students did not complete the full experience, they may not receive the full benefit when using the SSITT. Within the learning experience, students did have the ability to pause for a period of time before completing their session. For simplicity the learning experience and simulator were designed to be completed in one session for the pilot. When productised, the intention is to granulate the package so the different elements can be accessed individually and be used before using the simulator.

The Nacro education centres have a variety of students including many who are unable to remain in mainstream education. It is typical that some students have social and emotional issues and/or are diagnosed with learning difficulties/disabilities or conditions such as autism. It was anticipated these factors may affect their ability to learn effectively from the SSITT as well as their ability to present their acquired knowledge in their post-interview a week later. The SSITT was developed through engagement with Nacro students to help ensure the content was suitable framed.

2.5 Implementing the evaluation

Despite the best efforts of the Nacro and A-dapt teams to implement the planned evaluation methodology, other factors resulted in receipt of the intervention amongst control group and non-take up of the intervention by the treatment group respectively.

This significantly reduced the usable sample and minimised the likelihood of a difference in the observed outcomes between the control and intervention groups. Presenting the results as previously planned would affect the reliability and validity. The approach to analysis therefore had to adapt (see chapter 5).

The required 50 students from the two learner centres were identified to participate in the pilot. There were also a further two students identified in one learning centre who, at the outset of the pilot, were assigned to the control group. All students gave consent to take part. In the first week it was hoped that all 52 students would be able to undertake the learner evaluation questionnaire as well as the week one interview with the soft skills expert. Unfortunately, attendance was low, more notably in centre 2 in week one. Attendance did pick up in week two with further staff supporting implementation in one learning centre. In week two, the activities from week one were undertaken by those who had not already done so, ie alongside the week two activities. Attrition was an issue however and expected attendance at each stage was lower than necessary to conduct analysis using the RCT design.

Ultimately, the timing of the pilot could be attributed to many of the recruitment and retention difficulties. Understandably, the pilot was not a priority for many of the learners who still had portfolios outstanding or had other functional skills tests. For others, good weather combined with non-mandatory attendance in the Nacro centres resulted in poor attendance overall and a high attrition rate. Out of the original 52 students recruited, 40 undertook the pre-interview student evaluation questionnaire (77 per cent), 20 undertook the learning simulator (38 per cent) and 28 undertook the post interview student evaluation question (54 per cent).

Arms-length implementation as a result of the pandemic made the logistical elements of running the pilot more difficult and placed a greater strain on Nacro staff. As it was the crunch period of the academic year, it meant that many students had conflicting priorities, and the amount of time they had available was justifiably inflexible. Allowing students to complete the activities outside the original student time slots within the proposed three-week timetable meant a higher sample was achieved for the pilot than otherwise could have been the case.

User testing prior to the pilot and experiences of the tutors (described in the next section) confirmed that combining the learning experience and the simulator may have led to an unsuitable length of time for learners to maintain their concentration and was off-putting for some learners to engage in the pilot. In one centre, learners spent an average of 11 minutes using the tool, although the median was much lower at four minutes. This was quite a stark contrast with the other learning centre where there was a mean of 29 minutes (and a median of 35 minutes) engagement with the SSITT among treated participants.

An unforeseen factor which heavily disrupted the pilot in one centre was the experience of IT problems. Testing of the SSITT on the devices to be used prior to the pilot by the A-dapt team found no significant issues, only that bandwidth seems to slightly affect the results of the SDK. The issue within the pilot was that within one centre in particular videos in the learning experience section suffered considerable buffering. This is despite having wifi which should have been able to cope with the SSITT. In addition the SSITT was more difficult to use in parts as it is resource intensive. Students also reported being kicked out of the software which caused understandable frustration.

The following subsection details the Nacro tutor experience of implementing the evaluation and the SSITT pilot, this is followed by qualitative experiences of a small number of learners.

3 Tutor and learner experiences

According to tutors, most students from centre 1 engaged well with the learning package. There were a few issues with technology that could not be overcome, but largely students were able to engage with the software successfully. Students enjoyed using the learning simulator but engagement with the interactive videos was limited as they did not like sitting and watching videos for long periods of time. Some students felt uncomfortable engaging with the interactive section and as a result refused to engage with it more than once. Centre 1 noted that they felt these uncomfortable responses were due to *'having someone nodding and smiling in front of them who wasn't a human'*. In terms of the students who did attend, it was a question of who was behind in other work that needed to take priority, as a result centre 1 recruited only those who were up to date on their coursework to reach the necessary figures.

The technology worked much smoother here. The students varied quite a lot in their responses...the interactive bit got a range of responses. Some liked it, some got freaked out by it and wouldn't do it more than once.

Tutor, centre 1.

Centre 2 experienced a range of issues with technology and as a result reported the engagement with students was lower than expected. They predicted had they not had as many technology issues that engagement would have been higher. Students in this centre would usually require more 1:1 support in class, and this was no different when using the SSITT. Students in this centre needed considerable encouragement to complete the SSITT as they often experienced buffering when accessing videos, hence delays in the learning experience. The level of computer literacy for learners in this centre was also lower than expected for a usual 16–18-year-old cohort. Student attendance was exceptionally poor at the centre during the pilot period, and this translated into the low figures taking part in the pilot. Frustrations with technology outweighed interest to engage with the learning package. Currently the IT infrastructure at Nacro is not sufficient to facilitate packages such as the SSITT, and this would need to be addressed before engaging in further trials. Frustratingly even in centre 2 there was a better broadband option available that could have been used which may have improved the experience for learners. In terms of who took part, the choice was made based on practicality, involving students who were most willing to take part and those who had a better attendance record. Tutors commented that students in this centre do not like reading and that interacting is of more interest to them.

They engaged relatively well; they needed a lot of support to get on which was an issue. They needed a lot of encouragement because our systems were so slow. The students needed reassurance to keep them engaged and motivated. If we did not have the technical issues, it would have worked much better

Tutor, centre 2.

Tutors commented about students having a general anxiety about online meetings and the use of the camera on their device. Lack of familiarity with these aspects is understandable and given increasing use of technologies in the recruitment and job interview process, should be encouraged in future. For example, a Gartner survey last spring revealed that 86 per cent of employers had used virtual technology to interview candidates to overcome recruitment challenges created by the Covid-19 pandemic. Similarly, the Job Description Library found a 67 percent increase in the use of video interviews between 2020 – 2021.

We discussed with tutors whether the tool would be suitable for use independently by students, perhaps outside of the learning centre. They believed that the first time students used the SSITT it would be better in small groups, and that the SSITT could be introduced into the tutorial programme for all learners as a specified time set out for interview skills. Using a menu-based system would facilitate using the tool on a more individualised or compartmentalised basis.

Centre 1 faced practical issues in maintaining student engagement with the SSITT. As noted the pilot took place at the end of term and students had a number of other priorities such as completing their portfolios. This meant they could not fully commit their time to the SSITT. One student had completed their course and did not want to attend the college just for the project. Where students felt uncomfortable, or did not want to continue with the project, they knew they only had one interview with the soft skills expert, who they were familiar with and were happy to talk to.

In centre 2, some students did not see intrinsic value in using the learning package and instead saw it as something they had to do resulting in lower engagement. Similar to centre 1, students had anxieties about taking part in online meetings and being on camera. Tutors suggested that the tool might be better positioned for use with mainstream college students who were more confident in appearing in front of cameras. This is planned for future pilots.

Anxieties around zoom meetings or online meetings, being on camera was another issue. It was mainly around anxiety and confidence issues, again that reaffirms the suggestion of doing it with mainstream college students as they have that confidence. A lot of our students, we almost had to give them a pep talk.

Tutor, centre 2.

Other issues affecting engagement concerned the amount of time students had to spend on the learning package. Centre 1 staff suggested that if it were incorporated into a wider tutorial programme and integrated into a timetable for general interview preparation at the beginning of the academic year that it would have been extremely useful. This was echoed by centre 2 who agreed that the learning package would have more impact if it were split up into separate sections and divided up across the course of the year. The 40–45-minute timing of each session was too long for the Nacro learners, and attendance declined because *'if half an hour in it's the cigarette time or lunch time, they don't stay'*.

If it had been a different time of year, if each session wasn't so long... doing the videos and interactive bit in one session was a problem

Tutor, centre 1.

When considering the video content, the response from centres was mixed. The centre 1 tutor thought that some videos worked better than others, but by the end of the package, students were fatigued with the format. The tutor reported that the learning experience videos were not directly preparing learners for the simulator, and noted that some of this content felt like *'padding'*. At centre 1 there was also the belief that some of this general content was information that students already knew so by the time they reached the content that would provide a benefit through preparing them to use the simulator directly, they were tired and starting to disengage. In the pilot SSITT the videos covered four basic vocational areas. The experience of the students indicates a need to review the curriculum the SSITT will be positioned in and to prioritise the novel elements for student use.

It worked for some students more than others. They enjoyed the simulator but didn't enjoy the interactive videos. The videos went on far too long. They preferred the interactive bit but didn't like the sitting and watching.

Tutor, centre 1.

Conversely, centre 2 reported that they felt the content was pitched well, if at a slightly higher level than some students were comfortable with. Issues with engagement stemmed from IT problems and not wanting to read content from the screen, something that was exacerbated by the IT issues forcing students to redo their previous work. When they were interacting with the learning package directly in the simulator, learners seemed much more positive, indicating the interactive element held better levels of engagement.

Tutors said that their students required a lot of support to use the learning package. They felt that students who engaged well with the SSITT more fully understood the project and why it was happening, alongside the benefits in the long term for future AI project development. Those who required support often needed to be reminded about why they were taking part and more generally what the purpose of the learning package was.

It worked better for some students than others, some students saw the importance of it, some saw it as something they were asked to do. Some students thankfully did see the benefit and saw why we were asking them to participate in this project.

Tutor, centre 2.

In centre 2, students required a lot of support with the learning package, due to the slow speed of the centre's IT systems. They required reassurance and motivational support which reinforces the belief that some of the students lacked self-confidence, motivation and resilience. The tutor in centre 2 commented that the whole experience required intensive support for some students.

Overall, tutors believed that the experience of using the learning package was generally positive. Once students overcame the initial practical and personal challenges, they would find the learning package a useful tool to use independently but that this would require further input from tutors to encourage engagement. One tutor commented it was fast paced but this could be due to students skipping through key sections of the learning experience.

The tutors indicated that the learning package could be improved if it provided a greater sense of personal agency or control for students, such as allowing them to choose which sections they worked through rather than needing to watch the videos in a specified, sequential order. However, tutors noted that the ordering was appropriate and followed a logical sequence.

Having a bit of agency in it always makes people engage with it more. I put a menu in my resources to make it feel like they have a sense of ownership and agency with it

Tutor, centre 1.

In centre 2, a lack of agency resulted in learners attempting to speed through the learning package as they did not want to listen, read or engage with all of the content. The interactive elements generated more interest suggesting that students want to be more involved in the learning process. According to the tutors, the learning experience content which supported students' use of the interview simulator was helpful. However, the general interview preparation was perhaps not suitable for others as they felt they had already acquired this through prior learning.

Sadly, our students aren't very good at going through online learning. They have a tendency to speed through it and not necessarily want to listen or read the information that is given to them. I think perhaps there was more interest in the interactive side of it because they have to participate and follow instructions 'whereas on the learning part it was a case of sitting, listening and/or reading.

Tutor, centre 2.

3.1 Views and experiences of learners

Only two learners volunteered to take part in interviews with the evaluation to understand their views on the SSITT, one from each learning centre. Interviews were short so the insights they offered were limited, although there were some consensus points between the two learners which suggests these experiences are likely to be more widely shared.

Both had prior experience in interviewing or of the world of work. One had previously undertaken an employability course that covered interview techniques and other information such as how to manage expenditure. Interview techniques training included a mock interview in a group. This learner also volunteered at a hospice, so had familiarity with a work environment. The other learner had worked in a range of job roles which they had been interviewed for, and were knowledgeable about interview experiences, going as far as identifying a recognisable pattern in interview techniques.

I've realised employers talk to you in a way, I think after three or four...every employer is different but there's a recognisable pattern ..., the questions they ask, the things they like to know. Be yourself enough so they're not shocked if you do get the job and you start but also don't bring everything in your personal life to work either. As far as it goes for interviews, honesty is a big thing and I tend to be as honest as I can be with them because I don't like the idea of starting a job and then a couple of months down the line because I wasn't honest about it, I lose my job or other things happen

Learner one, centre 1.

When asked about their experiences of using the learning package, both learners felt it was accessible, straightforward, and very smooth to use. One suggested improving accessibility by offering an option to skip the introduction and instead have a list of introduction content from which learners could select.

Maybe just one thing, whilst sitting through the introduction and things it's talking about. Maybe for people who would like to skip but still be in the know, maybe have a list of things instead of having to listen to it individually

Learner one, centre 1.

Both learners found the login experience easy to use. When probed about the suitability of the level of the learning material, both felt it was very well targeted towards those inexperienced with interviewing. One also suggested that if a learner only had limited experiences that they would benefit from working with the learning package.

Being AI it felt very robotic. For real life interviews it wouldn't necessarily go that way. It's very, ... it feels tapered in a way. Your experience, you go down this route, this is what happens, that sort of thing. Which, for the jobs available here it wants to be as clear and open as possible, especially with people who are inexperienced with interviews but again that's the purpose of it, so I think it did very well.

Learner one, centre 1.

Both learners felt it was well presented, and very intuitive to use. When asked if they would change anything about it, one mentioned the robotic nature of the AI, noting that they felt more comfortable speaking to real employers because of the presence of human reactions to language rather than staring down at a camera. Despite this, this learner also said that for the types of jobs identified in the learning package the content worked well. Both learners also reported having to smile throughout the simulator interview, otherwise their respective scores dropped. However, they also felt that the technology required them to smile to such a degree that felt unnatural.

The one weird thing about it was if you weren't smiling exaggeratedly the whole time it went down which is not realistic

Learner one, centre 1.

After using the learning package one learner felt that their confidence was a lot better. The other reported feeling uncomfortable although that this discomfort mirrored in-person interviews.

If you get more comfortable talking to nothing, you could get more comfortable talking to actual employers

Learner one, centre 1.

This learner also felt that if the tool was used regularly, then it would have benefits. They felt positively about the content, understanding the purpose and value behind it. They felt it was a good way to practice interviewing, particularly if career goal was one of the job options available, and thought the clear focus throughout on honing interviews was valuable.

4 Results

This chapter begins with a descriptive analysis looking at the characteristics of the young people who engaged with the pilot. It then details the descriptive results across all outcomes of interest. Following on from this, it shows the results of statistical analysis used to detect impact from the SSITT pilot among those who undertook it all stages of the evaluation.

4.1 Descriptive analysis

4.1.1 Student characteristics

It is worth noting that we do not have the characteristics for the total student population within the two learning centres. However, tutors noted that students in centre 1 were selected due to their better attendance record and likelihood of engaging in the pilot. Should these students not be representative of the total population, ie some students not chosen were likely to benefit more from the SSITT than those recruited, then it is likely the estimates of impact will be subject to a downward bias and not representative if the SSITT were rolled out to all Nacro students. If it had been possible to implement the pilot at a different stage of the academic year, it might not have been necessary to select learners in this way.

Table 4.1 shows the student characteristics based on four population groups. The first is the full population of 52 students recruited to the trial. The second group is the 40 students who completed the first student self-evaluation questionnaire¹⁶. The next set of columns correspond to the 20 students who undertook the SSITT in full. The final columns refer to the 14 students who undertook the SSITT in full and all stages of the evaluation process, referred to henceforth as the final sample.

From the full recruited population, 40 per cent were female. The proportion of women was lower in the week 1 sample, with 32 percent of the 37 participating students identifying as female. The gender balance in the SSITT group and final sample was not fully representative of the trial recruits with half (50 per cent) of both samples identifying as female. In the week 1 sample, 15 percent of learners identified as being in an ethnic minority. However, no ethnic minority students completed both the SSITT and final questionnaire, therefore this group is absent from the final sample.

Four in ten (42 per cent) of the students recruited declared that they had a disability, according to Nacro data¹⁷. This is similar across all the samples with 43 per cent of the week 1 sample declaring a disability. Similarly, 40 per cent of the SSITT sample and 36 per cent of the final sample declared a disability.

¹⁶ Note: The characteristics of ethnicity, GCSE attainment and job history are not available for the full population as these were collected in the pre interview self-evaluation questionnaire. In addition, three baseline questionnaires were recorded with no id so were unable to be linked to the student data.

¹⁷ Nacro state that some disabilities are not declared, so figures are likely to be underestimated.

In the week 1 sample, 43 per cent of the 40 participants had both English and maths grade 4 (or C) or above. This was slightly higher in the SSITT sample and SSITT and final questionnaire sample, standing at 56 per cent and 57 per cent of the respective samples. This suggests those who engaged fully in the pilot were qualified to a higher level than those who were not.

The proportion of participants who had an education and health care plan (EHCP) was fairly consistent between the recruited and week 1 populations, standing at 12 per cent and 14 per cent respectively. However, fewer than five learners who undertook the treatment had an education and health care plan. The proportion of participants in the recruited population who were in receipt of free school meals (FSM) was 44 per cent. This was generally consistent with the week 1 sample, with 41 per cent in this group. Figures declined however in the SSITT sample with just one-in-four eligible for FSM.

In the week 1 sample, 46 per cent of the 39 students currently had a job. This was fairly similar across the further two samples with 56 per cent of the SSITT sample and half (50 per cent) of the final sample currently having a job. Of those who were currently employed, 59 per cent of the week 1 sample had a formal interview for their current position. This figure was higher in the SSITT sample, with most students having had a formal interview. This was again evident in the final sample, this figure remained high (83 per cent) with five of the six participants having had a formal interview for their role. This indicates that of those who had a job in the final sample, most already had interview experience, hence were not perhaps the students most in need of support.

In the week 1 sample, 48 per cent of the 40 students had previously had a job. This is similar to the other two samples with 44 per cent and 43 per cent respectively previously having a job. The majority of learners who had some experience of employment also had experienced a formal job interview.

When considering voluntary positions, just over half (53 per cent) of the 40 in the week 1 sample had previously worked or were currently working in a voluntary role. This figure increased for the majority of the SSITT sample and remained high in the final sample. This indicates that the students who participated in all aspects of the pilot were likely to see the benefit of the interview tool because of their experiences in the world of work through volunteering.

Finally, the average GAD score was slightly lower in the week 1 sample (14.5), compared to the treatment samples (15.4 and 15.6 respectively). Higher GAD indicates higher levels of anxiety, so it is interesting that despite several dropouts from week 1 activities citing anxiety and low confidence, the mean GAD scores for those remaining was higher.

There were a small number of learners with criminal convictions within the recruited population, however none of these undertook the treatment and full evaluation activities.

Table 4.1 Descriptive characteristics of sample populations in the pilot (Mean)

	Recruits		Week 1 sample		SSITT sample		Final sample	
	Mean	N	Mean	N	Mean	N	Mean	N
Female	0.40	52	0.32	37	0.50	20	0.50	14
Ethnic minority			0.15	40	*	16	0.00	14

Disability declared	0.42	52	0.43	37	0.40	20	0.36	14
Grade 4 (or grade) or above in both English and Maths GCSE			0.43	40	0.56	16	0.57	14
Education & health care plan	0.12	52	0.14	37	*	20	*	14
FSM status	0.44	52	0.41	37	0.25	20	*	14
Do you currently have a job?	#	#	0.46	39	0.56	16	0.50	14
If yes above, did you have a formal interview for this job?	#	#	0.59	17	0.88	8	0.83	6
Have you ever had a job previously?	#	#	0.48	40	0.44	16	0.43	14
If yes above, did you have a formal interview for this job?	#	#	0.59	17	0.88	8	0.83	6
Have you ever had a voluntary position?	#	#	0.53	40	0.81	16	0.79	14
GAD score	#	#	14.5 3	40	15.38	16	15.64	14

*Suppressed due to a cell size lower than five #Collected in w1 questionnaire so not available for all recruits

Source: IES analysis of student self-evaluation questionnaires and learner data

All participants in the recruited student population were aged between 16-18.

Functional skills level achieved is one level below the level that students are currently working towards, eg a Level 2 student will have a Level 1 qualification or be previously assessed to be at L1. Students recruited to the trial fall into the following levels of functional skills achievement:

- Level E3 = Key stage 2 equivalent, notionally 9-11 yrs.
- Level 1 = Key stage 3 equivalent, notionally 11-14 yrs.
- Level 2 = Key stage 4 equivalent, notionally 14-16 yrs.

When considering functional skills levels, while one in ten of the 52 recruited students had achieved Level E3, none of these undertook all elements of the treatment and evaluation. This is important as functional skills are likely to be an important influencing factor on interview performance. These students are likely to need the most support. Table 4.2 presents Level E3 and Level 1 aggregated due to small samples.

A third of the trial population (31 per cent) and the week 1 sample (35 per cent) had functional skills at Level 1. This increased in the latter samples where approximately four in ten trial participants had attained this level (40 per cent and 43 per cent respectively). Across all populations between 55–62 per cent were at functional skills Level 2, whereby they have some qualifications at GCSE level or equivalent. There were two additional recruits to the trial both located in centre 2, hence the uneven sample for the total population. Despite this, 60 percent of those who undertook week 1 activities were from centre 1. The inequalities between centres are more noticeable when looking at the sample who completed the intervention with 70 percent from centre 1 and just 30 percent from centre 2. In the impact analysis sample, the vast majority were from centre 1.

Students were asked to choose from one of four fictional jobs. These were:

- A= Management Trainee at Baxters Bakers.
- B= Management Trainee at BRR Construction.
- C= Carer at Little Angel Childcare.
- D= Part of Yellowhammer, a Startup.

Of the 40 students who made a job choice there was a fairly even split across the board. The fictional job role C was most common, chosen by a third (32.5 percent) of learners, of whom the vast majority were female. Job choice A was chosen by 27.5 percent of the full sample. With one in five learners choosing either job role B or D. The spread of job choices was broadly similar in both the SSITT and final sample which are not presented due to disclosure risk.

Table 4.2 Descriptive characteristics of sample populations in the pilot (Frequencies)

	Recruits		Week 1 sample		SSITT sample		Final sample	
	Freq.	Per cent	Freq.	Per cent	Freq.	Per cent	Freq.	Per cent
Age								
16-18	52	100%	40	100%	20	100%	14	100%
Functional skills level achieved								
Level E3/ Level 1 - Key stage 2/3 equivalent	21	41%	17	38%	9	50%	6	43%
Level 2 -Key stage 4 equivalent	30	59%	23	62%	11	55%	8	57%
Learning centre								
Centre 1	25	48%	22	60%	14	70%	~	~
Centre 2	27	52%	15	41%	6	30%	~	~
Job Choice								
A	#	#	11	28%	~	~	~	~
B	#	#	8	20%	~	~	~	~
C	#	#	13	33%	~	~	~	~
D	#	#	8	20%	~	~	~	~

*Suppressed due to a cell size lower than five #Collected in w1 questionnaire so not available for all recruits
~Data not presented due to disclosure risk

Source: IES analysis of student self-evaluation questionnaires and learner data

Students were recruited from a wide range of courses within the Nacro centres¹⁸. These were:

- Animal Care
- Art
- Care
- Hospitality & Catering
- Media
- Motor Vehicles
- Music
- Sport.

Animal Care and Motor Vehicles courses both had nine students taking part in the pilot, or 18 percent of the total sample. All other courses with the exception of Sport had at least five recruits (ie one in 10 of the total sample).

Students who are in the impact analysis sample came from a smaller number of courses. These were: Animal Care; Art; Care; Media; Motor Vehicles; and Music.

Table 4.3 compares the characteristics of the total population selected for the pilot vs. the final sample who completed the SSITT and final interview questionnaire. This table presents the mean value across each dimension in the table, followed by the difference in means. The table then contains a p-value which denotes the significance of a two-sided t-test. Low p-values indicate the difference is very unlikely to have occurred by random chance. $p < 0.05$ is a commonly cited value, indicating a less than 5 per cent chance that difference occurred by chance. This table shows that the sample who undertook the SSITT are fairly representative of the wider population for the pilot. Whilst a third (37 per cent) of the population were women, half (50 per cent) of the SSITT sample were women. Despite this difference, it is not significant.

There were some significant differences however and these should be considered. Whilst 38 per cent of the full population had previously had a voluntary position, this rose to 79 per cent for the SSITT sample. This indicates that either the final sample is made up of more motivated individuals than the wider sample or the individuals who undertook the full experience really need the support from the SSITT and realise its benefits. As there are no significant differences between the proportion who have a job or previously had a job or had interviews for these roles, this indicates the latter could be true. As noted earlier, self-motivation among learners in both centres is typically low. Both centres have issues with attendance and students often turn up late. However, as the descriptive analysis shows, despite poor attendance generally, among those who attended there was a good level of motivation. In particular the tutors noted that many students saw the importance of the SSITT and how it could be key for them in the future.

The table also shows that whilst 23 percent of the population were from an ethnic minority background, no individuals from ethnic minority backgrounds undertook the SSITT. Both centres are located in areas with a predominantly white population. Considering the

¹⁸ The results of these are not presented due to disclosive samples.

results as a whole this table indicates that there are no notable differences in characteristics between the recruited population compared to the final sample.

Table 4.3 Difference in characteristics between recruits and final sample

	Recruits exc. Final sample	Final sample	Differenc e	p- value	N 1	N2
Female	0.37	0.5	0.1	0.4	38	14
Ethnic minority	0.23	0	-0.2	0.05	26	14
Disability declared	0.45	0.36	-0.1	0.57	38	14
Grade 4 (or grade) or above in both English and Maths GCSE	0.35	0.57	0.2	0.18	26	14
Do you currently have a job?	0.44	0.5	0.1	0.73	25	14
If yes above, did you have a formal interview for this job?	0.45	0.83	0.4	0.15	11	6
Have you ever had a job previously?	0.5	0.43	-0.1	0.68	26	14
Have you ever had a voluntary position?	0.38	0.79	0.4	0.01	26	14
GAD score (baseline)	13.92	15.64	1.7	0.42	26	14

Source: IES analysis of student self-evaluation questionnaires and learner data

The remainder of the section presents the mean scores and sample size for all students who participated in the evaluation regardless of whether they undertook the SSITT or not. These are not impacts and should not be interpreted as such. They are indicative of the number of students who undertook each element of the evaluation and their respective scoring.

4.1.2 Questionnaire descriptives

Overall questionnaire outcomes show fairly high levels of general and interview self-efficacy as well as intrinsic motivation at baseline interview stage. High scores at baseline could make it hard to detect impact across the scales presented below. Comparing the group means shows that the mean scores were higher at the second questionnaire stage for general self-efficacy and intrinsic motivation (by approximately one) and lower by 3.1 for interviewing self-efficacy. By including all population results, the results for pre and post are not directly comparable in these or any of the following tables. However, they are informative about the difference in scores of those who did not undertake the SSITT pilot or participate in the full evaluation.

Table 4.4 Mean scores for primary survey outcomes

	Pre	Pos t	Differenc e	N 1	N 2
General self-efficacy	29. 0	30. 1	1.1	39	28

Interviewing self- efficacy	29. 7	26. 6	-3.1	39	27
Intrinsic motivation	34. 3	35. 2	0.9	37	27

Source: IES analysis of student self-evaluation questionnaires

Looking at the individual dimensions of the general self-efficacy scale shows either a modest increase or no increase in mean scores between pre and post questionnaires across all dimensions. A score of three indicates that students responded on average 'moderately true' on each dimension. In both pre and post questionnaires this was the mean score to one decimal place.

Table 4.5 Mean scores for general self-efficacy survey components

	Pr e	Pos t	Differenc e	N1	N2
I can always manage to solve a difficult problem	3.1	3.3	0.2	40	28
I can usually handle whatever comes my way	2.9	2.9	0.0	40	28
If someone opposes me, I can find the means and ways to get what I want	2.7	2.9	0.1	40	28
It is easy for me to stick to my aims and accomplish my goals	3.0	3.1	0.1	40	28
I am confident that I could deal efficiently with unexpected events	2.9	2.9	0.0	40	28
Thanks to my resourcefulness, I know how to handle unforeseen situations	2.7	3.0	0.3	40	28
I can solve most problems if I invest the necessary effort	3.3	3.3	0.0	39	28
I can remain calm when facing difficulties because I can rely on my coping abilities	2.7	2.7	0.0	40	28
When I am confronted with a problem, I can usually find several solutions	2.7	2.9	0.3	39	28
If I am in trouble, I can usually think of a solution	3.0	3.0	0.0	39	28

Source: IES analysis of student self-evaluation questionnaires

Table 4.6 show the mean score for the components of the interview self-efficacy scale. In only one dimension 'Making sure that the interviewer knows what job you want to do?' there was a positive difference in mean scores between pre and post questionnaires across the interview self-efficacy scale. Seven out of the eight remaining dimensions had a negative difference in means, but as we are comparing different populations this should not necessarily be considered in a negative light.

Table 4.6 Mean scores for interview self-efficacy survey components

	Pre	Post	Difference	N 1	N 2
How comfortable are you about doing a job interview?	3.8	3.4	-0.4	40	28
Making a good first impression in a job interview?	2.9	2.4	-0.4	40	28
Maintaining rapport throughout the interview?	3.3	2.9	-0.3	40	27
Telling the interviewer about your strong points for the job?	3.1	3.1	0.0	40	28
Asking questions to learn more about the job?	3.5	3.0	-0.5	40	28
Negotiating the best arrangements for you (eg, schedule)?	3.5	3.1	-0.4	39	28
Making sure that the interviewer knows what job you want to do?	2.6	2.6	0.1	39	28
Concluding the interview in a positive way?	2.9	2.5	-0.4	39	28
Overall, how skilled do you think you are at job interviews?	4.0	3.6	-0.4	39	28

Source: IES analysis of student self-evaluation questionnaires

Within the intrinsic motivation scale there was a larger range of mean scores. The largest positive difference between pre and post questionnaires was on the 'Practising job interviews is important to do' dimension, followed by 'Practising job interviews is fun'. The mean score was also lower on the 'I would feel nervous practising job interviews', which is in the desired direction.

Table 4.7 Mean scores for intrinsic motivation components

	Pre	Post	Difference	N 1	N 2
I enjoy practising job interviews	2.3	2.3	0.0	39	28
Practising job interviews would require me to focus and concentrate	3.9	3.8	-0.1	38	27
Practising job interviews is fun	2.1	2.4	0.4	40	28
Practising job interviews is boring	2.6	2.8	0.2	40	28
Practising job interviews is enjoyable	2.4	2.4	0.0	40	28
Practising job interviews is interesting	3.0	3.0	0.0	40	28
Practising job interviews could help me	4.3	4.5	0.2	40	28
I don't really have a choice about practising job interviews'	1.9	2.0	0.1	38	27
Practising job interviews is important to do	3.9	4.4	0.5	37	27

I would feel nervous practising job interviews	3.2	3.1	-0.2	38	27
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Source: IES analysis of student self-evaluation questionnaires

4.1.3 SDK and interviewer results

Table 4.8 shows the mean score for the total population from the SDK for both attention and positivity increased between the testing periods. The difference in mean is very modest.

Table 4.8 Mean scores for SDK secondary outcomes

	Pre	Post	Difference	N 1	N 2
SDK attention score	70.8	75.2	4.3	43	31
SDK positivity score	49.2	55.6	6.4	43	31

Source: IES analysis of the interview SDK data

Whilst not directly comparable, the magnitude of increase between the pre and post interviews for positivity was larger for positivity than attention according to both the SDK and the soft skills expert (see Table 4.9). Again, as with the SDK, there were modest increases in mean scores across the whole sample, with both the SDK and the soft skills expert reporting high initial scores.

Table 4.9 Mean scores for interviewer secondary outcomes

	Pre	Post	Difference	N 1	N 2
Interviewer attention score	65.9	71.6	5.7	38	31
Interviewer positivity score	57.1	65.5	8.4	38	31

Source: IES analysis of interviewer attention and positivity scores

4.2 Impact analysis

This section presents results for students who completed the learning experience and simulator. The sample is smaller for the impacts derived from questionnaire responses as not all students completed the self-evaluation questionnaires despite completing a second interview. All results are presented in the same way, with the pre and post learning experience and simulator scores, the difference between these two periods and the p-value representing the result of a two-sided paired samples t-test. N is the number of students the result refers to.

4.2.1 Questionnaire results

Table 4.10 presents the results for the primary outcomes from the student self-evaluation questionnaires. The pre and post interview surveys asked questions across three dimensions: general self-efficacy, interviewing self-efficacy and intrinsic motivation.

Despite a positive difference in mean score between the pre and post survey for general self-efficacy of 0.3, the p-value (0.63) shows the result is not statistically significant. There was no difference in the mean score for interview self-efficacy between pre and post survey. There was a difference of -1.7 between pre and post intrinsic motivation score. This larger difference whilst closer to the 0.05 significance threshold, is ultimately not statistically significant. The small sample size (13-14) for the self-report survey is considered a contributing factor to the low levels of significance. The negative difference in intrinsic motivation scores should be considered a weak and inconclusive result.

Table 4.10 GSE, ISE and IM survey impacts – pre vs post

	Pre	Post	Difference	p-value	N
General self-efficacy	30.1	30.4	0.3	0.63	14
Interviewing self-efficacy	28.9	28.9	0.0	1.00	14
Intrinsic motivation	35.8	34.1	-1.7	0.15	13

Source: IES analysis of student self-evaluation questionnaires

Table 4.11 shows the component statements that contribute to the overall general self-efficacy survey responses. Overall, six of the ten statements reported positive or no differences between the pre and post interview surveys. From these positive differences, one was reported as being statistically significant at the conventional 5 percent threshold; 'If someone opposes me, I can find the means and ways to get what I want' (p-value: 0.02). This statement reported a positive change of 0.4. Another similar statement: 'I can always manage to solve a difficult problem' has a positive change of 0.2 and was significant at the 10 percent level (p value: 0.08). All other positive differences were not statistically significant.

Four of the statements reported negative differences between the pre and post interview surveys. From these negative differences, only one was reported as being statistically significant; 'I can solve most problems if I invest the necessary effort' (p-value: 0.02). This statement reported a negative change of -0.4, decreasing from 3.6 in the pre survey to 3.2 in the post survey. All other negative differences were not statistically significant.

Table 4.11 General self-efficacy survey component impacts – pre vs post

	Pre	Post	Difference	p-value	N
I can always manage to solve a difficult problem	3.1	3.4	0.2	0.08	14
I can usually handle whatever comes my way	3.1	3.0	-0.1	0.67	14

If someone opposes me, I can find the means and ways to get what I want	2.6	2.9	0.4	0.02	14
It is easy for me to stick to my aims and accomplish my goals	3.1	3.1	0.0	1.00	14
I am confident that I could deal efficiently with unexpected events	3.0	2.9	-0.1	0.67	14
Thanks to my resourcefulness, I know how to handle unforeseen situations	2.9	3.1	0.2	0.19	14
I can solve most problems if I invest the necessary effort	3.6	3.2	-0.4	0.02	14
I can remain calm when facing difficulties because I can rely on my coping abilities	2.9	2.7	-0.1	0.58	14
When I am confronted with a problem, I can usually find several solutions	2.9	2.9	0.1	0.72	14
If I am in trouble, I can usually think of a solution	3.1	3.2	0.1	0.67	14

Source: IES analysis of student self-evaluation questionnaires

Table 4.12 shows the individual components that contribute to the interview self-efficacy survey outcomes. Out of the nine questions, five reported positive and four reported negative changes between the pre and post surveys. Of these changes however, none were reported as being statistically significant.

Table 4.12 Interview self-efficacy survey component impacts – pre vs post

	Pre	Post	Difference	p-value	N
How comfortable are you about doing a job interview?	3.8	3.6	-0.2	0.55	14
Making a good first impression in a job interview?	2.9	2.6	-0.3	0.22	14
Maintaining rapport throughout the interview?	3.3	3.2	-0.1	0.79	14
Telling the interviewer about your strong points for the job?	3.3	3.6	0.3	0.30	14
Asking questions to learn more about the job?	3.2	3.4	0.1	0.70	14
Negotiating the best arrangements for you (eg, schedule)?	3.1	3.2	0.1	0.58	14
Making sure that the interviewer knows what job you want to do?	2.6	2.6	0.1	0.75	14
Concluding the interview in a positive way?	2.6	2.7	0.1	0.75	14
Overall, how skilled do you think you are at job interviews?	4.1	3.9	-0.1	0.73	14

Source: IES analysis of student self-evaluation questionnaires

Finally, Table 4.13 shows the individual components of the intrinsic motivation outcome. The component with the largest change across the two surveys was 'practising job

interviews would require me to focus and concentrate' which reported a negative change of -0.8 from a pre survey score of 4.3 to a post survey score of 3.5. This was also the only component of intrinsic motivation to report as statistically significant (p-value = 0.01). In the pre survey almost all learners responded very true to this statement and to a lesser extent in the post survey. This change could be seen as good if it is interpreted that as a result of the SSITT students believe interviews are easier and they can be more relaxed. However at face value this seems like a negative unintended result. Of the remaining nine components, six reported a positive or no change, and three reported a negative change.

Table 4.13 Intrinsic motivation survey component outcomes – pre vs post

	Pre	Post	Difference	p-value	N
I enjoy practising job interviews	2.5	2.1	-0.4	0.24	14
Practising job interviews would require me to focus and concentrate	4.3	3.5	-0.8	0.01	13
Practising job interviews is fun	2.0	2.0	0.0	1.00	14
Practising job interviews is boring	2.7	2.9	0.1	0.61	14
Practising job interviews is enjoyable	2.3	2.2	-0.1	0.75	14
Practising job interviews is interesting	3.1	2.7	-0.4	0.24	14
Practising job interviews could help me	4.4	4.4	0.1	0.72	14
I don't really have a choice about practising job interviews'	1.3	1.5	0.2	0.34	13
Practising job interviews is important to do	4.1	4.6	0.5	0.11	13
I would feel nervous practising job interviews	3.2	3.2	0.0	1.00	13

Source: IES analysis of student self-evaluation questionnaires

4.2.2 SDK results

The SDK outcomes for attention and positivity found in Table 4.14 show the relevant scores for the treatment group who underwent the interviewing simulator with the learning experience. On both, negative changes were recorded across the pre and post scores, with attention decreasing by 4.7 from 69.4 to 64.6. Positivity also decreased at a lower rate, starting at 54.7 and decreasing by 1.2 to 53.5. Neither change can be considered statistically significant, so in conclusion the SSITT pilot had no effect on students' attention and positivity as measured by the SDK, one of the secondary outcomes.

Table 4.14 SDK Attention and positivity outcomes – pre vs post

	Pre	Post	Difference	p-value	N
SDK attention score	69.4	64.6	-4.7	0.58	19
SDK positivity score	54.7	53.5	-1.2	0.82	19

Source: IES analysis of the interview SDK data

4.2.3 Interviewer results

Table 4.15 shows the attention and positivity scores that were reported by the soft skills expert interviewing participating students. Both attention and positivity scores showed an increase between the pre and post interviews with attention showing a smaller change (+12.5) than positivity (+17.5). Both results were significant at the 10 percent significance level. This might show that even with a small sample there has been an increase in both attention and positivity scores for those who received the SSITT. Equally, it could also indicate the soft skills expert, unintentionally and despite best effort, was positively disposed to believing change on these dimensions would result from using the SSITT.

Table 4.15 Interviewer attention and positivity score outcomes – pre vs post

	Pre	Post	Difference	p-value	N
Interviewer attention score	70.0	82.5	12.5	0.09	12
Interviewer positivity score	61.7	79.2	17.5	0.05	12

Source: IES analysis of interviewer attention and positivity scores

From the results presented throughout this section it is evident that the small samples made it difficult to detect significant impacts. The very small window of opportunity to use the tool as well as the factors in the students' contexts are also likely to have influenced the results. While the evaluation could not establish a statistical impact of the SSITT on learners, the descriptive results demonstrate the types of students within the learning centres are in clear need of support in interview skills. This justifies further piloting within the Nacro education system and possibly general further education as well. The pilot experience has delivered valuable insights for further developing the technology, and its implementation, which are discussed next.

5 Conclusion

The evaluation found small signs of positive effect with significant differences in attention and positivity as reported by the soft skills expert, and positive change across many dimensions of the primary outcomes. The package overall was received well by learners and tutors with both groups seeing the benefit of using this technology. Many learners, some who dropped out, suffer from anxiety issues, and have a lack of confidence on screen. Therefore, it is unsurprising that some felt uncomfortable using the simulator. However, there is a clear rationale for trying to build this confidence among low-skilled learners given employers' increasing use of technology (and AI) in recruitment.

Learners in Nacro education have a wide range of factors in their contexts which means they require more support in their learning. Using the SSITT is a different way of learning which still requires support, in particular when using the tool on the first few occasions. Learners' needs can be complex so the level of support necessary is dependent on many factors, with computer literacy being a key one. When implementing the SSITT, we recommend staffing at appropriate levels to ensure learners are supported from the outset, which will build their confidence to continue with the package. We also recommend appropriate and timely training for staff in using the SSITT, as well as strong involvement from all staff members throughout.

For this pilot, the learning experience was combined with the simulator to create a tool which could be used in one sitting. In the future A-dapt intends that the SSITT will be broken up into more standalone modules that can build up into the overall learning experience. Our findings support this and it will allow learners to use the tool in more manageable chunks with shorter bursts of learning time, better matched to their concentration levels. This could then be introduced into the usual timetable structure, and linked to the employability curriculum, for example, including it as a specific module on interviewing skills. We also recommend improving the learning experience element of the SSITT so it prepares learners more explicitly for the interview simulator component.

For future evaluations of the SSITT this longer-term treatment would mean trialling would need to be carried out in a different way. Logistically individual level randomisation makes it difficult for timetabling pilot activities. Introducing a cluster-based approach at the course level across a few sites would give an adequate sample to detect impact. IT issues hampered the useability of the SSITT in one learning centre. Should further testing and piloting occur within Nacro education these issues need to be resolved prior to implementation.

Some further user testing with students comparing the AI interaction with a human-led interaction may be valuable. Tutor and learner interviewees believed the simulator required students to smile to an unnatural degree. More broadly, and as part of the employability curriculum, we recommend tutors learn about and teach students about AI and different ways it is used in recruitment. The current trial and package will have supported them in synchronous interviews (in person or on screen) but this group is likely to struggle with asynchronous video interviews with AI in an active role – capturing content (what they say) and mannerisms (what they do).

Appendix A: Learner interview topic guide

Introduction

The Institute for Employment Studies (IES), in collaboration with A-dapt and Nacro have received a grant from Innovate UK to undertake research evaluating the effectiveness of an AI-assisted interview software that aims to improve interview skills and confidence in young people.

We are interviewing people that have been involved in both the delivery of the software and learners who have used the software.

It is important for the evaluation of the software to get a view from learners to understand how they experienced the learning, how they found the material and if they feel it made a difference to their knowledge of interviews.

With your permission I would like to record the interview – I will be taking notes as we talk but it helps to have a back-up. No one outside the research team will be able to access the recording and it will be deleted no later than 30 November 2021. The information will be kept **confidential** within the research team and we therefore encourage you to be open and frank in your answers. Please say if anything you say is strictly off the record and I will make sure it is not reported. We will be writing a report based on our findings, but the information will be anonymised. Is that, OK?

The interview will last around 15-20 minutes. **Are you happy to go ahead?**

Please can you repeat for the recording that you are happy for the interview to be recorded?

Background Interview Skills

1. Can I begin by asking you if you had any experience of or training on job interviews prior to using the software?
 - a. Probe on whether they have taken part in a job interview....
 - i. What was their experience – how did it go? Did they get the job?
 - b. *If they have taken part in job interview training..... Was any of this experience with Nacro?*
 - i. Probe for the format and content of training eg. lessons/tutorials on how to approach interviews, taking part in mock interviews, etc

- ii. What key points did they learn from this?
- c. Probe for training experiences outside of Nacro if any
 - i. What were these experiences, prompt with: mock interviews, formal interviews, interviews for school/college etc.
 - ii. What key points did they learn from this?

Experience of the A-dapt content

I'd like to now talk to you about the A-dapt learning package on interview skills

1. How did you find using the content?
2. Does the programme feel attractive and accessible?
 - a. Is it visually appealing?
 - b. Is it easy to work through?
 - c. **(If neither of the above)**, why?
 - i. What was wrong?
 - ii. What would you change?
3. Was it easy to login and use?
 - a. Any issues?
 - b. Is there anything you would change about the login experience?
4. How did you feel about the material? (Right level, too basic, not enough explanation etc.)
 - a. Probe for: was it at the right level for you?
 - b. Did you feel it was well presented?
 - c. Would you change anything about the material?
5. **(If not already asked)** Is there anything you would want to change or improve for others?

Confidence and knowledge of interviews [if they have finished]

1. Have you finished using the software?
2. Do you feel the content made a difference to your interview skills?
 - a. How so, positively, or negatively?
 - b. Has anything in particular changed?
 - c. Would you act differently in an interview now?
3. Do you feel the content has improved your confidence?
 - a. In interviewing?
 - b. In other **social** situations?
 - c. In getting a job?
4. Would you change anything about the content?
 - a. If so, what, and why?
5. Is there anything that you feel the content was missing that would have helped improve your confidence?
 - a. If so, what, and why?
6. How do you feel about the overall experience of the content?
7. Would you recommend the content to others? Why/why not?

That is the end of my questions, do you have anything else to add that we have not covered?

Thank you and close.

Appendix B: Trainer interview topic guide

Introduction

The Institute for Employment Studies (IES), in collaboration with A-dapt Media and Nacro have received a grant from Innovate UK to undertake research evaluating the effectiveness of an AI-assisted interview software that aims to improve interview skills and confidence.

We are interviewing both trainers that have been involved in the delivery of the software and learners who have used the software.

It is important for the evaluation of the software to get a view from learners to understand how they experienced the learning, how they found the material and if they feel it made a difference to their knowledge of interviews. Alongside this, it is important to interview trainers to gain an understanding of the learning content that young people have experienced in the curriculum and during personal tutorials, particularly regarding employability and interview skills.

With your permission I would like to record the interview – I will be taking notes as we talk but it helps to have a digital back-up. No one outside the research team will be able to access the recording and it will be deleted no later than 30 November 2021. The information will be kept **confidential** within the research team and we therefore encourage you to be open and frank in your answers. Please say if anything you say is strictly off the record and I will make sure it is not reported. We will be writing a report based on our findings, but the information will be anonymised. Is that, OK?

The interview will last around 20-30 minutes. **Are you happy to go ahead?**

Please can you repeat for the recording that you are happy for the interview to be recorded?

Inputs experienced by learners

1. To begin, can I ask about the curriculum and personal tutorials in this current academic year?
 - a. What curriculum have the learners using the A-dapt package been experiencing? (subject; guided learning hours; mix of lessons and tutorials etc)
 - b. What topics have been covered? (subject material, employability skills, learning skills, how to handle assessments etc)
 - c. How have employability skills been addressed in the curriculum? (eg. lessons focused on these topics; topics worked into content on the industry etc)

- d. And during personal tutorials? (eg. personalised inputs based on learner experiences? Revisiting lesson content to address questions and queries etc)
2. Have learners had a specific input(s) on the job seeking and interview processes?
- a. Probe for types of input:
 - i. Formal – general input from learners.
 - ii. Tailored/personal – personal for each learner.
 - iii. Responsive support – In response to an issue.
 - b. What was the coverage? (*if tailored/responsive* – what type of content is typically covered?)
 - c. When did these inputs take place, relative to when the A-dapt package was used?**
 - d. Do you think there was any influence on the package due to these inputs?
3. How many guided hours (with support from learning staff and other sources) did learners have on interview skills?
- a. How well does this level of time meet learners' needs in preparing for interviews?
4. *If training on interviews is prospective rather than already having taken place, can you say precisely what students will cover in the week they have the package? And how much time will they spend on this?*
- a. *Can I clarify, are you planning any additional inputs on interview skills for students not using the package during this week? If yes, gather details.*

Experiences of the A-dapt package

5. How was the process of implementing the A-dapt package for learners (getting them set-up and started)?
- a. Probe for challenges?
 - b. Probe for things that went well?
6. Have you looked at the A-dapt package?
- a. *If yes, what do you think about the content? Is it a good addition to the standard curriculum you offer?*

- b. Is there anything you would change or improve about the package?
 - c. Probe for any issues with the package itself.
- 7. If the interview is after implementation, did you need to provide learners with any support on using the package?
- 8. *If retrospective*, During the period when students had access to the package, did you do any inputs on employability and interview skills with the students not taking part?
 - a. If yes, what did this cover? How much time did you spend on this?

Scalability of the package

- 9. Do you feel that the package would be useful in other settings?
 - a. Probe for what settings they feel it would be suitable for and why.
- 10. Could the package be rolled out more widely within Nacro and similar environments?
 - a. Probe for reasons why/why not
 - b. Would anything in the package need to change to make this practical?
- 11. Overall, in your view is training with the package a good experience?
 - a. Probe for experience of the trainers
 - b. Probe for perceived experience for learners

That is the end of my questions, do you have anything else to add that we have not covered?

Thank you and close.

Appendix C: Learner questionnaire

NOTE: The order of questions within each scale were changed between baseline and post questionnaires to avoid random responses.

Name (to be removed by Nacro tutor)

Unique ID

Thank you for agreeing to take part in this trial.

Working alongside Nacro, and tool developers A-Dapt, the Institute for Employment Studies (IES) are carrying out an independent evaluation of the Adaptive-media® based remote soft skills training tool. This baseline questionnaire forms part of the evaluation.

This is the first of two paper questionnaires you will be asked to complete.

The questions are mainly based on your views about your level of confidence and belief in yourself, related to interview skills. There are other questions about your physical and mental health, questions on your employment history, and other characteristics.

Please answer the questions as honestly as possible. If your responses to the health questions raise concern it may be that you are contacted by your Nacro tutor for them to fulfil their safeguarding responsibilities. If you have any difficulty in understanding any of the questions, please ask your Nacro tutor for help.

General Self-Efficacy Scale (GSE)

These questions relate to your belief in your ability to handle situations and people. This is known as general self-efficacy. Please answer based on the numeric scale below.

	1 Not at all true	2 Hardly true	3 Moderately true	4 Exactly true
1a. I can always manage to solve difficult problems if I try hard enough.				
1b. If someone opposes me, I can find the means and ways to get what I want.				
1c. It is easy for me to stick to my aims and accomplish my goals.				
	1	2	3	4

	Not at all true	Hardly true	Moderately true	Exactly true
1d. I am confident that I could deal efficiently with unexpected events.				
1e. Thanks to my resourcefulness, I know how to handle unforeseen situations.				
1f. I can solve most problems if I invest the necessary effort.				
1g. I can remain calm when facing difficulties because I can rely on my coping abilities.				
1h. When I am confronted with a problem, I can usually find several solutions.				
1i. If I am in trouble, I can usually think of a solution.				
1j. I can usually handle whatever comes my way.				

Interviewing Self-Efficacy (R01)

These questions relate to your belief in your ability to do a good job interview. This is known as interviewing self-efficacy. Please answer based on the new numeric scale below.

	1 Extremely comfortable	2 Very comfortable	3 Moderately comfortable	4 Neutra l	5 Slightly uncomfortable	6 Very uncomfortable	7 Extremely uncomfortable
2a. How comfortable are you about doing a job interview?							
2b. Making a good first impression in a job interview?							
2c. Maintaining rapport throughout the interview?							
2d. Telling the interviewer about your strong points for the job?							
2e. Asking questions to learn more about the job?							

	1 Extremely comfortable	2 Very comfortable	3 Moderately comfortable	4 Neutral	5 Slightly uncomfortable	6 Very uncomfortable	7 Extremely uncomfortable
2f. Negotiating the best arrangements for you (eg, schedule)?							
2g. Making sure that the interviewer knows what job you want to do?							
2h. Concluding the interview in a positive way?							
2i. Overall, how skilled do you think you are at job interviews?							

Intrinsic motivation

These questions relate to your natural level of motivation to engage in interview skills training. This is known as intrinsic motivation. Please answer based on the new numeric scale below.

For each of the following statements, please indicate how true it was for you based on your experience with practising getting better at job interviewing.

	1 Not at all true	2	3 Somewhat true	4	5 Very true
3a. I enjoy practising job interviews.					
3b. Practising job interviews is fun.					
3c. Practising job interviews is boring.					
3d. Practising job interviews is enjoyable.					
3e. Practising job interviews is interesting.					
3f. Practising job interviews could help me.					

For each of the following statements, please indicate how true it was for you based on your experience with practising getting better at job interviewing.

	1 Not at all true	2	3 Somewhat true	4	5 Very true
4a. I don't really have a choice about practising job interviews.					
4b. Practising job interviews is important to do.					
4c. I would feel nervous while practising job interviews.					
4d. Practising job interviews would require me to focus and concentrate.					
4e. I look forward to practising job interviews.					

GAD7

These questions relate to your mental health. Please answer based on the new numeric scale below.

Over the last 2 weeks, how often have you been bothered by any of the following problems?

	1 Not at all	2 Several days	3 More than half the days	4 Nearly every day
6a. Feeling nervous, anxious or on edge?				
6b. Not being able to stop or control worrying?				
6c. Worrying too much about different things?				
6d. Trouble relaxing?				
6e. Being so restless that it is hard to sit still?				
6f. Becoming easily annoyed or irritable?				
6g. Feeling afraid as if something awful might happen?				

Employment history

7a. Do you currently have a job?

Yes	
-----	--

No	
----	--

7b. If yes above, did you have a formal interview for this job?

Yes	
No	

7c. Have you ever had a job previously?

Yes	
No	

7d. If yes above, did you have a formal interview for this job?

Yes	
No	

7e. Have you ever had a voluntary position? (Eg In a charity shop, in a school etc.)

Yes	
No	

7f. How many job interviews have you undertaken in your life?

None	
1-2	
3-5	
6-10	
11+	

Other characteristics

8a. Do you have a grade 4 or above (or grade C or above) in both English and Maths GCSEs?

Yes	
No	

8b. What is your ethnic background? (Tick the most appropriate box)

White English, Welsh, Scottish, Northern Irish or British Irish Gypsy or Irish Traveller Any other White background	
Mixed or Multiple ethnic groups White and Black Caribbean White and Black African White and Asian Any other Mixed or Multiple ethnic background	
Asian or Asian British Indian Pakistani Bangladeshi Chinese Any other Asian background	
Black, African, Caribbean or Black British African Caribbean Any other Black, African or Caribbean background	
Other ethnic group Arab Any other ethnic group	

Thank you for completing this questionnaire. Please hand it in to your Nacro tutor.

Appendix D: Research brief

Adaptive-media® based remote soft skills training tool evaluation

You have been invited to take part in an exciting new project “IUK Project 52480 - Interview Skills Tool“, where Nacro, partnering with IES and A-dapt, have created a new software application, enabling young adults to learn Interview Skills using mobile devices (for this evaluation you will use Chromebooks). It will involve combining interactive videos and Artificial Intelligence to help Nacro students learn in a new way and show you how to deliver your best interview.

What is the evaluation?

Working alongside Nacro, and tool developers, A-Dapt, the Institute for Employment Studies (IES) will carry out an independent evaluation of the Adaptive-media® based remote soft skills training tool.

The evaluation will take the form of a randomised control trial (RCT). The RCT will take place across two Nacro learning centres. One centre will receive access to the tool over a two-week period, whilst the other will not. Those who do not receive access to the tool will be able to access the tool once this two-week period is over.

What will the evaluation mean for me?

Treatment group: You will be asked to undertake a baseline paper-based questionnaire that will be followed by a short 20-minute recorded interview with a soft skills expert. Once completing this interview, you will have access to the training tool for the next two weeks. After this two-week period you will have a further interview with the soft skills expert and be asked to complete a further paper based questionnaire. Upon doing this you will receive a certification which can be used on your CV.

Control group: You will be asked to undertake a baseline paper-based questionnaire that will be followed by a short 20-minute recorded interview with a soft skills expert. After two-weeks you will have a further interview with the soft skills expert and be asked to complete a further paper-based questionnaire. After this you will be able to access the Adapt interviews skills package. Upon doing this you will receive a certification which can be used on your CV. You will be supported by your Nacro tutor throughout the evaluation process, who have been fully briefed by the research team. In the first instance please ask them if you have any questions

You will be supported by your Nacro tutor throughout the evaluation process, who have been fully briefed by the research team. In the first instance please ask them if you have any questions.

Why should I take part in the research?

The Adaptive-media® based remote soft skills training tool is being developed to help learners, such as yourself, develop key skills needed to be successful in interviews. Your contribution in the research will help us understand the effectiveness of the training tool, this will help the development of the tool which will support learners in the future.

What about data protection?

Nacro is the data controller for the evaluation, A-Dapt and IES will act as data processors. IES is not collecting personal data (ie will never know your name) as part of the evaluation and each evaluation participant will be given a unique ID by Nacro which will be used throughout the intervention. Only Nacro will know the name of the person for each of these IDs.

Taking part in all research activities is entirely voluntary. Learners will be fully briefed on the purposes of the study and how the information they provide will be used before consenting to take part. The agreement form will be held within Nacro and not shared with the research team.

We operate fully in-line with data protection legislation (including GDPR) and we will not use the information we receive for anything other than this research.

All data will be deleted 6 months after the evaluation is complete.

Who can I talk to about the evaluation?

If you have any queries about the study, your primary contact will be:

Matt Jarvis, Learning Technology & Innovation Manager, Nacro

Email: mjarvis@totton.ac.uk

For further information please contact

James Cockett, Research Manager, Institute for Employment Studies (IES)

Email: james.cockett@employment-studies.co.uk

Jeffrey Howson, Product Director, A-Dapt

Email: jeff@a-dapt.com

Research privacy notice

The Institute for Employment Studies (IES) and A-Dapt will collect and process data from and about you. This will include information on your personal characteristics provided by Nacro, data collected through the paper questionnaires, data collected by the soft skills expert, the interview recordings and usage data from the tool.

This information will only be used for the purpose of this research project. IES and A-Dapt will hold the data on our secure systems for the duration of the project. No longer than 6 months after the end of the project the data will be securely destroyed. We will not collect the names of individuals in the research. Instead we will use a unique ID in order to protect identities.

Below is the privacy policy for you, as learners at Nacro education centres or Totton College, regarding data that will be shared with the evaluation team.

Privacy notice for Learners at Nacro education centres or Totton College

- 1) We hold your personal information to enable us to provide the services you receive. If you do not provide this data, you will not be able to access the service.
- 2) As we are performing a public task, we will share your details where we are obliged to do so in order for us to provide the service to you. For example, we are obliged under the performance of a public task to share your details with the Education and Skills Funding Agency. [Read the Education and Skills Funding Agency Privacy Statement here.](#)
- 3) We will keep your personal data for the time periods set out in ESFA guidance, legislation or our Retention Procedure. Please contact [Company Secretary](#) for more information on this.
- 4) We use certain details for monitoring the background of our learners – ethnicity, sexuality, race, criminal record background. Monitoring and reporting is done strictly anonymously. Providing this information is optional and you can ask Nacro to delete this information at any point, please contact your Senior Tutor.
- 5) Where you have explicitly consented we may share your details with other relevant agencies not integral to the contract of public task. You can withdraw your consent at any time by contacting your Senior Tutor or Nacro contact.

For further information on IES', A-Dapt's, Nacro's and Innovate UK's standard privacy policies please use these links:

<https://www.employment-studies.co.uk/about-website/privacy-policy>

<https://drive.google.com/file/d/1m4XNyZMF6tM67Xim8hjlA14-FbOSiCao/view>

<https://www.nacro.org.uk/privacy/>

<https://www.gov.uk/government/publications/privacy-notice-and-information-management-policy-innovate-uk>

Appendix E: Consent form



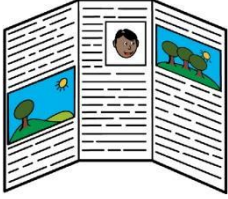


Adaptive-media® based remote soft skills training tool evaluation





	<p>This form is for you to agree to take part in the soft skills training trial.</p> <p><u>You should only do this if you want to.</u></p>
	<p>The details of the trial are described in the Briefing Sheet.</p> <p>You should have already read this.</p>

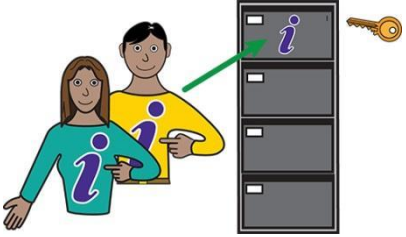
To agree to take part you need to:

1. Read and understand the **Briefing Sheet.**
 2. Read the following statements. You need to draw a **circle** around the 'Yes' or 'No' for each statement. This is to say if you understand or do not understand what the statement says.
 3. Then, if you want to, you can agree to take part by signing your name.
- If you do not understand anything in this form please speak to the person who gave it to you.**


	1.	
--	----	--

	<p>I have read the Briefing Sheet and I understand it.</p>	<p>Yes / No</p>
	<p>2. I have had a chance to think about the information and to ask questions. My questions were answered well.</p>	<p>Yes / No</p>
	<p>3. I understand that it is up to me if I want to take part. I know I am free to stop taking part at any time.</p>	<p>Yes / No</p>

	<p>4. I understand that none of my personal information (such as my name) will be shared with the research team. But that information collected as part of the research will be shared with the research team.</p>	<p>Yes / No</p>
	<p>5. I understand that information collected about me by the research team will be linked together into one set of information about me – but my name will not be included in this information.</p>	<p>Yes / No</p>
	<p>6. It has been explained that the information collected about me will be kept safe. I understand that this information will only be used for research purposes. I know that my name and personal information will not be included in any published reports.</p>	<p>Yes / No</p>
	<p>7. I understand that I can see any of the personal information that is stored about me.</p>	<p>Yes / No</p>

 <p>For 6 months</p>	<p>8. I understand that the personal information collected about me will be kept for up to 6 months. This will not include my name or anything else that can be used to identify me.</p>	<p>Yes / No</p>
--	---	-----------------

If you have circled 'Yes' to all the statements **above** then you can move on to the statements **below**:

	<p>I am happy to take part in the trial.</p> <p>I understand that my information will be used as set out above.</p>	<p>Yes / No</p> <p>Yes / No</p>
--	---	---------------------------------

If you are happy to take part in the trial, you can now sign your name below. Signing your name means you **understand** the statements you agreed with above.

If you cannot sign the form yourself, you can ask someone else (an advocate) to sign it for you. The advocate should be:

1. Someone you are happy to sign the form for you,
2. Aged over 18,
3. Not a member of the research team.

Your **full name**.....

Your **signature**..... Today's **date**.....

Signature of person administering the agreement process

.....

If you sign below you are confirming that the participant has understood the verbal explanation of the study.

Advocate name (if needed)

Advocate signature (if needed)

.....

.....

One copy of the form should be given to the person giving their agreement, and one kept by the person collecting it.

If you require this form in large print, please ask your Nacro tutor.

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