Stories of employability: improving interview narratives with image-supported past-behaviour storytelling training

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Abstract

Purpose – Stories of employability are told in employment and educational settings, notably the selection interviews. A popular training approach guiding higher education students to construct employability stories has been the past-behaviour storytelling method. However, insufficient research exists regarding the method’s effectiveness and optimisation. This study examines whether the method (1) increases the quantity and quality of interview narratives in story forms and (2) can be enhanced by image stimuli.

Design/methodology/approach – In a double-blind randomised control trial with repeated measures, participants submitted four weekly interview narratives. After receiving past-behaviour serious storytelling training in Week 3, they were randomly allocated to an exposure group using images and a control group using keywords as a placebo to continue producing interview narratives. The interview narratives were assessed based on the number of stories and quality ratings of narrative conformity, relevance and conciseness. Results before and after the training, and with and without the image stimuli, were analysed.

Findings – Training increased the number of stories. Training and repeated practice also increased narrative quality ratings. However, the image-based intervention was the strongest predictor of improved quality ratings (effect size 2.47 points on the observed scale of 0–10, p < 0.01, 95% CI [1.46, 3.47]).

Practical implications – A pre-existing ability to tell employability stories cannot be assumed. Training is necessary, and intervention is required for enhancement. Multi-sensory narrative interventions may be considered.

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Originality/value – This study is the first known double-blind randomised control trial with repeated measures evaluating if storytelling training and image stimuli improve interview narratives.

Keywords Narrative intervention, Serious storytelling, Images, Interview narratives, Interview skills training, Employability

Paper type Research paper

Introduction
Stories of employability are commonly expressed as past-behaviour narratives that exemplify an individual’s skills and attributes as fit for vocational requirements (Ng et al., 2021). These employability stories embody an individual’s capabilities, professional identity and human capital indicative of work readiness and future potential (Benati and Fischer, 2021; Bridgstock et al., 2019; Jackson, 2016; Rae, 2007; Monteiro et al., 2019; Tomlinson, 2017; Winterton and Turner, 2019). The most classic occasion that demands such stories of employability is the selection interviews, where the candidate’s behaviours and experiences are scrutinised. In this situation, the bespoke interview approach has been the past-behavioural interview method (Campion et al., 1997; Conway and Peneno, 1999). This method draws out details of past events by following a storytelling sequence of orientation, complication and resolution (Labov and Waletzky, 1967). Well-known past-behaviour storytelling techniques include the STAR (situation, task, action and result) (Goodwin et al., 2019) and the PAR (problem, action and result) (Clement, 2013) formats. Following these formats, interviewees assume the role of an employability storyteller who weaves desirable employability qualities into past-event narrations to project future performance (Janz, 1982; Krajewski et al., 2006).

Past-behaviour storytelling contributes to employability stories in higher education in many ways. For a start, it is the preferred response style in admission and work-based placement assessments to evaluate applicants’ potential towards targeted vocational pathways (Yoshimura et al., 2015). As university performance funding is increasingly tied to graduate outcomes, there is also a growing need to evidence employability in curricular and extracurricular settings throughout the student journey (Castro-Lopez et al., 2021; Bridgstock, 2009; Divan et al., 2019; Pitan and Muller, 2020; Tomlinson, 2017). Past-behaviour narratives are now frequently adopted to not only demonstrate skill development and reflections but also form part of students’ learning documentations and portfolios (Brumm et al., 2005; Goodwin et al., 2019; Lafayette College, 2020; University of California, Los Angeles, 2012; Weiss et al., 2019). Towards the end of study programs, to prepare students for the transition to employment, university career services, professional associations and public employment services also routinely instigate interview skills training, most notably using the STAR format to help students tell their stories of employability (Sammut, 2019; UK National Career Service, n.d.; Yale University, n.d.). This training is provided in accordance with the pervasive use of the STAR narratives in graduate recruitment applications and interviews in the public, private and not-for-profit sectors (Australian Public Service Commission, 2020; Forbes, 2020; Government of Canada, 2019; UK Government, 2016; U.S. Department of Labor, 2019; World Health Organization, 2017). Because the focus of past-behaviour storytelling is not on the breadth but the depth and transferability of experiences, it is regarded as especially useful for higher education students, most of whom have limited professional experiences (Society for Human Resource Management, 2016).

Despite the prevalence of past-behaviour storytelling training, insufficient research has examined its effectiveness in helping students construct employability stories. This gap poses a threat to evidence-based practice of career skills training. As the employability agenda grows, training methods that enhance the narrative quality of stories of employability should be substantiated by empirical evidence (Higgs et al., 2019; Okolie et al., 2020). Notwithstanding existing studies concerning the validity and acceptability of
behavioural interviews, the literature has been scant about specific applications used to improve employability stories (Hollandsworth et al., 1977; Motowidlo et al., 1992; Orpen, 1985; Stocco et al., 2017). Although some studies have incorporated the past-behaviour interview STAR method in coaching and assessing students’ skill articulation (Goodwin et al., 2019; Tross and Maurer, 2008; Yoshimura et al., 2015), research is yet to be conducted to examine whether the method improves interview narratives, the epitome of stories of employability. The scarcity of known scholarly publications on past-behaviour storytelling in selection interviews contrasts sharply with its extensive coverage in the grey literature.

The so-far unexamined question of employability storytelling has fundamental implications for career skills training and interventions. Given that people are thought of as “natural storytellers” (McAdams and Adler, 2010; McAdams and McLean, 2013; Murray, 1997; Parkinson, 2009), is employability storytelling a matter of tapping into an innate narrative ability of human beings? Is it a matter of practice for mastery? Is training really necessary? The lack of empirical studies is troubling as it is unclear if and how training makes any difference. It further reflects a barrier to training refinement. Without knowing the effects of training, it is problematic to define and align training objectives, activities and assessments. This is concerning for career advisors and employment service providers who conduct interview skills training and educators who use employability storytelling to help students articulate skills. The following sections present significant considerations to evaluate, contextualise and optimise training.

Evaluating interview narratives training
As the prime occasion of employability storytelling, the interviews are a necessary setting to begin an investigation of employability storytelling training. It is vital for such an investigation to examine the effects of training on interview narratives separately from oral performance because a plethora of confounding factors affects interview performance. Factors such as non-verbal behaviours and interview anxiety impact the interviewees’ ability to deliver employability stories orally in the presence of interviewers (Feiler and Powell, 2016). Interviewers’ preconceptions, bias and hirability assumptions also have a direct effect on interview performance ratings (Florea et al., 2019; Lammers et al., 1984; Peterson, 1997; Williams, 2008; Silvester and Chapman, 1996). Additionally, interviews are interactive activities where the dynamics between interviewers and interviewees may alter the results (Brosy et al., 2020; Budnick et al., 2015, 2019). To exclude these confounding factors, the quantity and quality of interview narratives in the textual form must be studied separately from oral performance.

Quantity of valid stories. Quantity refers to the number of “valid” stories. According to Bangerter et al. (2014), valid stories contain unique episodes. This specific-event characteristic distinguishes stories from generic descriptions and opinions. A story is also more than mere details of events. It has a structure that plots orientation, complication and resolution (Labov and Waletzky, 1967). An interview response is regarded as a valid story only when it is subjected to a single event description with a story structure.

Quality of interview narratives. Quality refers to the the degree to which the narrative addresses the required or desired characteristics of the interview responses. Several quality indicators are used as the discriminative standards to judge the textual properties of past-behaviour interview narratives. The first indicator is narrative conformity, determined by the extent to which event details follow a story structure with a beginning, middle and end (Labov and Waletzky, 1967; Somasundaran et al., 2018). The inclusion of the sequential information of situation, task, action and result is one example (Goodwin et al., 2019). The second quality indicator is relevance. Relevance refers to the cognitive congruence between a response and the question (Cosijin and Ingwersen, 2000). The correspondence between the question and answer is drawn from contextual inferences of the narratives (Saracevic, 1996). The storyteller must not only provide an account of a past event but also link the story to
selection criteria (Lipovsky, 2006). Conciseness, indicated by sufficient but not excessive, repetitive or redundant details, is the third key quality indicator of interview narratives (Lipovsky, 2006). While sufficient information is needed to show relevance and form a complete story, because interviews are time-bound, responses also need to be concise (Burns, 1992). This is especially important when the interviewers assess multiple candidates and may suffer from attention span and fatigue issues.

Contextualising interview narratives training

To contextualise an evaluation of interview storytelling training, several considerations should be noted. First, employability storytelling training is considered as a serious storytelling intervention (Lugmayr et al., 2017). Second, what qualifies narrative change in the interview setting must be identified explicitly. Finally, given the prevalence of the behaviour interview training, not only training effectiveness verification but also optimisation must be pursued. This means that the investigation does not end at acknowledging existing training benefits but conclude with new discoveries to extend the knowledge base. These positions are elaborated on below.

Employability storytelling as a serious storytelling intervention. Serious storytelling is storytelling for purposes other than entertainment, with the expectation of impressive narratives as the result of thoughtful story construction processes (Lugmayr et al., 2017). Reasons of competency and competition exist for employability storytelling training to be studied in the context of intervention. Contrary to popular belief, storytelling is not a “natural” task. In a study by Bangerter et al. (2014), “true” stories, that is, narratives of events containing the story structure of orientation, complication and resolution, were only found in 23% of job interviews. Pseudo-stories (no unique event, time or action), opinions and self-descriptions dominate the rest of the interview responses. In higher education, the past-behaviour interview STAR training is routinely called upon as a necessary intervention because of individual variances in students’ narrative skills (Brosy et al., 2020; Goodwin et al., 2019). These findings suggest that narrative skills should not be taken for granted, and there is likely a training need to ensure narrative competency. In addition to competency, selection interviews are an occasion of competitive serious storytelling. As a derivative of serious games (Alvarez and Djaouti, 2011), serious storytelling invokes a sense of contest that demands skills and strategies in the construction of stories. “Story-crafting”, a narrative career intervention (McMahon and Watson, 2012), therefore, may support students in terms of not only competency but also competition in interviews.

From an intervention point of view, therapeutic benefits could exist in the construction of interview stories. Interview narratives are mini career narratives that describe and reconstruct an individual’s changing relationships with dynamic social systems (McIveen and Patton, 2007; McMahon and Patton, 2017; Young and Collin, 2004). Individuals rewrite part of the script of their lives during the narrative process. The narrative stages of equilibrium, disequilibrium and new equilibrium are essential to incite actions and solutions in a story (Todorov and Weinstein, 1969; Young et al., 2014). The act of problem-reframing creates new storylines and realities for conceptual and behavioural changes (McAdams, 1996; White and Epston, 1990). Counsellors and learning facilitators may capitalise on the diverse narrative therapy techniques (McAdams and Janis, 2004; White and Epston, 1990) to tailor instruction and co-develop “narrative competence” with participants (Charon, 2001).

Qualifying improvement in interview storytelling. To specify the type of improvement that storytelling training can make, a framework of change should be consulted. According to the theory of change (Aromatario et al., 2019), effect mechanisms can be mapped using contextual and agency factors. In interviews, intervention effects can be conceptualised as normative, transformative and pro forma changes. Normative changes are the cognitive and behavioural differences experienced by interviewees and interviewers in their adherence to agreed
interaction protocols or rules. Transformative changes are the further qualitative changes in perceptions and behaviours arising from interviewee–interviewer interactions. In due course, the accumulative effects of the interview exchanges lead interviewers and interviewees to modify future interview approaches or techniques; thus, initiating pro forma changes. Based on this framework, the objective of this investigation lies squarely in the training’s effectiveness in facilitating normative change; namely, whether the training leads to the adherence to narrative requirements or protocols of past-behaviour storytelling.

Figure 1 illustrates this model of change by using factors identified in the extant interview literature. Past literature has identified structural factors pertaining to the interviews, including format, delivery and technology (Chapman and Rowe, 2001; de Koch and Hauptfleisch, 2018; Huffcutt et al., 2013; Levashina et al., 2013; Macan, 2009). Employability storytelling introduces normative changes through the structure and content of answers (Lindsay and DePape, 2015), which may affect interviewee anxiety and performance (Budnick et al., 2019; Jeske et al., 2018; McCarthy and Goffin, 2004) and nonverbal behaviours, such as eye contact (Tessler and Sushelsky, 1978). Although not in the scope of this study, there is potential to observe transformative changes that occur when the interviewee’s responses interact with the interviewers’ impressions and preconceptions (Florea et al., 2019; Peterson, 1997), bias (Lammers et al., 1984; Silvester and Chapman, 1996) and behaviours (Linden et al., 1993). Over time, interview approaches may evolve and undergo pro forma changes to yield new format, structure, instruction and delivery so that training may be continuously improved.

Optimising training effects with visual stimuli. The pursuit of effective training does not end with verifying training effects but whether the benefits of the training have been reasonably optimised. In other words, how can the training be facilitated better? In the case of narrative constructions, previous studies have indicated the potential of using visual and other sensorial stimuli to improve narrative outcomes in cognitive narrative psychotherapy (Gonçalves et al., 2011). Visual sensory strategies play a role in recalling events and
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objectifying realities to substantiate meaning construction (Crete-Nishihata et al., 2012; Siedlecki, 2015). Specifically, visual stimuli may enhance the narrative quality of interview responses by raising awareness of significant incidents, therefore increasing the number of unique event recall. They may also help retrieve details of the narrative components about contexts, crises, goals, actions and outcomes (Vannucci et al., 2016).

Images, a basic and highly accessible visual artefact, have been used as a baseline visual stimulus to facilitate serious storytelling (Lin-Stephens, 2020a; Lin-Stephens et al., 2022). Images are two-dimensional visual artefacts that may include photos, pictures, clip art, paintings and drawings. They exist abundantly online or in training participants’ networks, thanks to traditional and smart digital photography. There are already extensive applications of image-supported narrative interventions in health and education. For instance, photo-elicitation, photovoice and photo-self-narratives have been used in public health promotion and communications of illnesses, addictions and injuries (Hermanns et al., 2015; Monforte et al., 2018; Lewinson, 2015; Ziller, 2000). Image-facilitated “walkabouts” can be paired with kinetic and audio inputs to improve engagement with diverse clients (Backman et al., 2018).

Images, a basic visual artefact, provides a tangible way to incorporate multi-sensory narrative interventions into storytelling training. Compared with other elaborate visual stimuli, such as virtual and augmented reality, image-assisted narrative training also has the advantage of minimal costs and less participant burden, including fewer technology-induced side effects and complications (Bouchard et al., 2009; McNamara et al., 2018). Given that employability storytelling is a form of serious storytelling, whose origin in media technology gives prominence to sensorial strategies (Lugmayr et al., 2017), visual support can be considered to assist narrative expressions. Since the notion of impressive quality accentuates the competitive nature of interviews, it will be an oversight not to explore training optimisation (Brumm et al., 2005; Pawlas, 1995; Yeung, 2008). This has implications for the value that education technology, for example, eportfolios (Housego and Parker, 2009; Goodwin et al., 2019), can add to the expressions of employability stories.

The present study
This study examined whether the past-behaviour storytelling training, as a narrative intervention, predicted a normative change in the quantity and quality of interview narrative and if incorporating images into the interview narrative preparation had additional benefits. The following research questions were posed:

1. Does the training improve interview narrative quantity (valid stories)?
2. Does the training improve interview narrative quality?
3. Does the image-supported intervention improve interview narrative quality?
4. Do other covariates influence the interview narrative quality?

Method
This study followed intervention research design principles (Melnyk and Morrison-Beedy, 2018) and adopted the design of a double-blind randomised control trial with repeated measures. The choice of an experimental study with random allocation met a need in the narrative literature for rigorous and robust study designs (McMahon, 2018). Furthermore, this design mitigated the threat of narratives being a closed, self-referential system where narratives were the worldview, method and product that explained and confirmed themselves.

The serious storytelling (SS) training and serious storytelling with images (SSWI) intervention - (Lin-Stephens, 2020a; Lin-Stephens et al., 2022) were put in place to evaluate
interview narratives in the conditions of baseline, repeat, SS training and SSWI intervention. Four measurements were made. The first two were under the condition of no training, and the last two were under experimental conditions (SS vs SSWI). An \textit{a priori} power analysis based on superiority design (Julious, 2004) provided a sample size required ($N = 20$, $n = 10$ in each group) to achieve a power of 0.80, with the study parameters of alpha of 0.05, standard deviation of 2.0 and effect of 2.5 detectable on an observed scale of 0–10. The study was part of a large research program with central ethics clearance from the Human Research Ethics Committee at Macquarie University, Australia (Reference no. 52019308711121).

\textit{Participants}

Participants were domestic students under the age of 25 from an elective career planning and development course with 40 enrolments at a university in Taipei. Of the 40 students, 36 consented to participate in the study and for their interview narratives to be analysed for research purposes. In total, 15 participants had missing submissions in the follow-up, which left 21 eligible participants that completed the full training and submissions in the final sample. Nine were male, and 12 were female. All participants had no full-time work experience. Just over half of the participants intended to study further, and just over 60\% of the participants planned to work within one year of degree completion. Because generalised anxiety had been known to affect interview performance (Constantin \textit{et al.}, 2021), in case it also affected textual narrative abilities, participants’ level of generalised anxiety was controlled for during random allocation. The level of generalised anxiety was determined by the Anxiety Scale of the \textit{Hospital Anxiety and Depression Scale} (HADS-A) (Julian, 2011; Zigmond and Snaith, 1983). Eight participants had mild anxiety and 13 had no anxiety. No one was found to have severe or moderate anxiety. The random allocation ensured identical levels of generalised anxiety in both the experimental and control groups.

\textit{Measures}

The first measurement was the number of “valid” stories based on the classification of story, pseudo-story, exemplification, opinion/value and self-description by Bangerter \textit{et al.} (2014). Valid stories were defined as interview responses embodying a past-event narrative depicting one unique episode structured in temporal order from beginning to end. Pseudo-story referred to descriptions of non-specific, generic or recurring events. Exemplifications were examples without story elements of time, place or action in an event. Opinions portrayed one’s value or belief. Self-descriptions asserted personal attributes. Pseudo-story, exemplifications, opinions and self-descriptions were all non-stories.

Interview narrative quality was rated on a scale of 0–10 based on adherence to narrative conformity, relevance and conciseness. The score of ten denotes full compliance with the story format, complete relevance to the intended targeted quality and the utmost copious responses. Marks were deducted from missing story components, irrelevance and unsatisfactory length of narratives in one-point decrements. \textit{Appendix} presents the rating scale. Two assessors blind to the study design rated the de-identified interview narratives independently. The assessors were given training and had agreed on the marking rubrics before conducting the narrative assessment.

\textit{Procedure}

Information about the study was provided to the participants early in the semester. As part of the course, interview training was conducted. Participants consented to produce four weekly interview narratives and have their interview narrative data analysed for research purposes. Participation was voluntary and bore no consequences on their course
results. The participants were free to nominate any focal quality, skills or strengths they wished to share in interviews, for example, teamwork, problem-solving and any other attributes commonly interrogated at interviews. However, the narratives must contain a concrete example based on a past event. All participants produced weekly narratives for two weeks before a past-behaviour serious storytelling training. After the training, an independent statistician blind to the participants’ identities randomly allocated participants to an exposure and a control group, with equal levels of anxiety in both groups. The two groups were instructed to continue their weekly narrative submission for two more weeks. The experimental image exposure group (SSWI) was instructed to generate images related to their examples during preparation. The control group (SS) received a placebo instruction to generate keywords for their personal preparation. These instructions, including images or keywords, were for participants’ private preparation only and were not to be shared with assessors. Participants submitted weekly interview narratives via an online portal.

**Data analysis**

The weekly narratives from each participant were collected and analysed. The narrative texts were de-identified, pooled and assessed by two independent reviewers blind to the study design. The number of valid stories and ratings based on quality indicators of narrative conformity, relevance and conciseness were compared. In analysing interview narrative quality, several covariates were considered, including gender, assessor, level of generalised anxiety (HADS-A) and practice. To model the effects of covariates on narrative quality scores (0–10), continuous ordinal regression was employed to deal with the problem of the bounded scale by modelling a latent variable on an unbounded scale. Effect sizes were reported on the latent and the observed scale. Practice and training entered the regressions separately to avoid collinearity. The effect of repeated measures was taken into account using random effects in the model.

**Results**

Figure 2 presents the sampling and flow of participants. Most students (90%) consented to participate in the study. A total of 17 participants were allocated to the exposure group, while 19 were in the placebo group. Ten participants in the exposure group and 11 in the placebo group completed all narrative submissions.

**Quantity of interview narratives**

Table 1 presents the quantity of interview narratives produced by week, noting that the training occurred immediately after Week 2; therefore, post-training observations started from the third narrative submission. The number of valid stories (an actual, specific and complete event) increased from 0 (0%) to 13 (62%) after the training. In the baseline observation, more than half of the narratives were interviewees’ descriptions about themselves. About a third of the narratives were non-specific pseudo-stories. The distribution of the types of narratives stabilised after the training.

While a potentially pre-existing ability to produce valid stories could confound the effect of the training, no valid stories before the training were found. Moreover, the number of valid stories was balanced between the control (SS) and experimental (SSWI) groups after the training (Table 2). The past-behaviour storytelling training increased the number of valid stories and decreased the non-stories in both the control and exposure groups. There had been no change from Week 1 to 2 in the distribution of types of narratives until the training.
**Enrolment**

Assessed for eligibility ($n = 40$)

- Excluded ($n = 4$)
  - Declined to participate ($n = 4$)

Randomized after training ($n = 36$)

Allocated to image exposure group ($n = 17$)
- Received allocated treatment ($n = 17$)

Allocated to keyword control group ($n = 19$)
- Received allocated placebo ($n = 19$)

**Follow-Up**

Lost to follow-up ($n = 7$)

Lost to follow-up ($n = 8$)

**Analysis**

Analysed ($n = 10$)
- Excluded from analysis ($n = 0$)

Analysed ($n = 11$)
- Excluded from analysis ($n = 0$)

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### Table 1.
Number of types of narrative by week based on Bangerter, Corvalan and Gavin's story classification (2014)

<table>
<thead>
<tr>
<th>Week</th>
<th>Story</th>
<th>Pseudo-story</th>
<th>Exemplification</th>
<th>Opinion</th>
<th>Self-description</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>0</td>
<td>11</td>
<td>4</td>
<td>2</td>
<td>19</td>
<td>36</td>
</tr>
<tr>
<td>W2</td>
<td>0</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>W3*</td>
<td>13</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>W4*</td>
<td>13</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>21</td>
</tr>
</tbody>
</table>

**Note(s):** *Post-training (training was administered in W3)*

### Table 2.
Number of valid stories and non-stories in control and exposure groups by week

<table>
<thead>
<tr>
<th>Week</th>
<th>Control Story</th>
<th>Exposure</th>
<th>Control Non-story</th>
<th>Exposure</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>W2</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>W3*</td>
<td>6</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>W4*</td>
<td>6</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>21</td>
</tr>
</tbody>
</table>

**Note(s):** *Post-training (training was administered in W3)*

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**Figure 2.**
Sampling and flow of participants following consolidated standards of reporting trials guidelines (CONSORT) (Schulz *et al.*, 2010)

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Stories of employability
administered in Week 3. Once the training was administered, the frequency of stories and non-stories remained unchanged.

**Quality of interview narratives**

Narrative quality assessment results based on narrative conformity, relevance and conciseness are presented in Table 3, as indicated by the assessor and the status of treatment (pre-training, post-training SS control group and post-training SSWI exposure group). Before the training, the range of quality scores across Weeks 1 and 2 was 5.3–5.8. After the training, the range became 6.0–7.0 for the SS control group. For the SSWI exposure group, the range became 8.1–8.8.

*Regression factoring in practice.* The covariates of practice, training (SS), exposure to the image instruction (SSWI) and assessor were found to be significant factors of narrative quality. Table 4 presents regression results based on practice. With practice effect factored in, exposure to the serious storytelling with the image-based intervention was still a highly significant factor of the quality of narratives. The SSWI image exposure group obtained higher scores than the control group, garnering a highly significant increased effect of 2.56 on the observed scale of 0–10, 95% CI [1.69, 3.64], with variables at median or reference. One assessor was found to have given higher ratings than the other assessor across observations. No other covariates including levels of anxiety and gender were significant.

*Regression factoring in training.* Once the covariate of practice was dealt with, we examined the effect of training. Table 5 shows that training (SS), exposure to the image preparation (SSWI) and assessor were significant factors affecting interview narrative quality rating. The post-training result appeared to be significant, with an effect of 1.95 on the observed scale of 0–10, with all variables at median or reference. However, caution must be

<table>
<thead>
<tr>
<th>Week</th>
<th>Pre-training</th>
<th>Post-training (control)</th>
<th>Post-training (exposure)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A (n = 21)</td>
<td>B (n = 21)</td>
<td>A (n = 11)</td>
</tr>
<tr>
<td>W1</td>
<td>5.3 (2.0)</td>
<td>5.5 (2.5)</td>
<td>–</td>
</tr>
<tr>
<td>W2</td>
<td>5.3 (2.3)</td>
<td>5.3 (2.4)</td>
<td>6.0 (3.3)</td>
</tr>
<tr>
<td>W3*</td>
<td>–</td>
<td>5.8 (2.4)</td>
<td>6.0 (4.1)</td>
</tr>
<tr>
<td>W4*</td>
<td>–</td>
<td>6.2 (3.2)</td>
<td>7.0 (4.0)</td>
</tr>
<tr>
<td>W5</td>
<td>6.0 (3.3)</td>
<td>8.1 (2.6)</td>
<td>8.2 (2.6)</td>
</tr>
<tr>
<td>W6</td>
<td>6.2 (3.2)</td>
<td>8.5 (2.5)</td>
<td>8.8 (2.5)</td>
</tr>
</tbody>
</table>

**Note:** * Post-training (training was administered in W3)

Narrative quality ratings are the mean of ratings on narrative conformity, relevance, and conciseness

<table>
<thead>
<tr>
<th>Estimate</th>
<th>SE</th>
<th>t value</th>
<th>p value</th>
<th>Effect†</th>
<th>95% CI†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice</td>
<td>0.52</td>
<td>0.16</td>
<td>3.28</td>
<td>0.002481</td>
<td>**</td>
</tr>
<tr>
<td>Intervetion</td>
<td>2.17</td>
<td>0.50</td>
<td>4.32</td>
<td>0.000136</td>
<td>***</td>
</tr>
<tr>
<td>Assessor B</td>
<td>0.56</td>
<td>0.27</td>
<td>2.04</td>
<td>0.049734</td>
<td>*</td>
</tr>
</tbody>
</table>

**Note:** ***p < 0.001, **p < 0.01, *p < 0.05
† Effect on observed scale (0–10) with all variables at median or reference
‡ Practice refers to the number of observations. Despite the trend in the upward direction being significant, the estimate of the effect size may have a confidence interval containing negative values. This is a consequence of the arbitrary choices of the reference and the value at which the effect size is computed; therefore, the illustrative nature of computing an effect size should be taken into consideration. While the significance of the trend is certain, the effect size estimate is conditional on the reference used.
taken in light of the significant result of practice as reported in Table 4 because a possible collinear relationship existed between practice and training. The SSWI intervention remained highly significant, with an expected effect of 2.47 points on an observed scale of 0–10, 95% CI [1.46, 3.47], with all variables at the median or reference. One assessor was still found to have given higher marks than the other assessor consistently. Other covariates remained insignificant.

Discussion
This study investigated whether past-behaviour storytelling training improved the quantity of valid stories and the quality of interview narrative determined by narrative conformity, relevance and conciseness. Discussions based on the focal research questions are presented below.

Does the training improve interview narratives quantity?
We found an increase in the number of valid stories (Table 1) that was balanced between the SS control and the SSWI experimental groups after the training (Table 2). The SS training directly increased the number of valid stories. There was no valid story before the training, but pseudo-stories, exemplifications, opinions and self-descriptions. The finding of insufficient narrative outcomes before training or intervention was consistent with the results of previous studies by Bangerter et al. (2014) and Brosy et al. (2020). Once the training was administered, the number of story production increased significantly, and the effect remained present in the next measurement. The spread of story production was balanced between the experimental and control group, suggesting that the serious storytelling training alone could increase the number of valid stories. The implication is significant. Recognising the challenge of interview storytelling reminds trainers and teachers to empathise with participants and normalise the difficulty they face. Furthermore, diverse ways to improve narrative competency may be co-explored with participants.

Does the training improve interview narrative quality?
The SS training was found to have increased narrative quality as determined by degrees of narrative conformity, relevance and conciseness (Table 5). There is an increase of an effect size of 1.95 on the observed scale of 0–10, \( p < 0.01 \), 95% CI [0.87, 2.62]. However, because the results of practice and training could be collinear, we were limited in evaluating the true magnitude of the effect of the training due to the confound of practice. More observations will be necessary to overcome these confounding effects. Nevertheless, the fact that it was not until training was administered that story production increased gave confidence that the SS training was beneficial although the effects from the SSWI intervention were even more significant.

Does the image-supported intervention improve interview narrative quality?
The image-based intervention was the strongest predictor of improved narrative quality amongst all covariates, including training and practice. Accounting for practice effect, the

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>SE</th>
<th>t value</th>
<th>( p ) value</th>
<th>Effect( \dagger )</th>
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<td>1.46, 3.47</td>
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<td>2.07</td>
<td>0.046766 *</td>
<td>0.91</td>
<td>0.04, 1.72</td>
</tr>
</tbody>
</table>

Note(s): **\( p < 0.01 \), *\( p < 0.05 \)
\( \dagger \) Effect on observed scale (0–10) with all variables at median or reference

Table 5. Significant results indicating effects of training, image intervention and assessor on interview narrative quality
image-supported intervention had a highly significant effect on narrative quality ($p < 0.001$, effect size of 2.56 on the observed scale, 95% CI[1.69, 3.69], Table 4). Accounting for training effect, the SSWI intervention still had a larger effect than the SS training ($p = < 0.01$, effect size 2.47, 95% CI[1.46, 3.47], Table 5). While we had some reservation in confirming the extent of effect based on the training alone, we could confirm that the effects of the SSWI image preparation were highly significant regardless of practice and training effects, with an approximate effect size of 25% improvement on the observed scale of 0–10 (Tables 4 and 5). The significance of intervention was demonstrated in several other studies. Brosy et al. (2020) reported that probing helped participants tell more and better stories. Williams (2008, 2012) found coaching and feedback, not unguided practice, improved interview experiences. However, we note that probing, feedback and coaching cannot be expected of interviewers in reality; as such, the implication is that these strategies may be incorporated into training and intervention, similar to SSWI as part of participants’ interview storytelling preparation.

**Do other covariates influence the rating of interview narrative quality?**
Practice was a significant predictor of improvement; however, the effect size was less certain (Table 4). The effect of practice must be interpreted with caution because previous studies in the interview literature had cast doubt on the maxim of ‘practice makes perfect’ (Harrison et al., 1983; Williams, 2008, 2012). Only one other covariate—assessor—was found to have influenced the rating of interview narrative quality. One assessor tended to give higher marks, despite the predetermined marking criteria (Tables 4 and 5). Because assessor training was in place, this result suggested a degree of uncertainty of interviewer ratings, much like in reality. Generalised anxiety was controlled for during random allocation and included as a covariate; however, it was not found to have influenced the rating. This could mean that other mitigating factors existed, including the lack of moderate and severe anxiety captured in this sample. In this study, the effects of the past-behaviour storytelling training and image-supported intervention were present regardless of participants’ status of no or mild generalised anxiety.

**Significance and contributions**
The findings support using past-behaviour storytelling training to enhance interview narratives. Furthermore, using images to support serious storytelling in interviews has significant merits as an intervention. This is an important reminder for us to return to the origin of narratives experiences, the formation of which cannot exist without sensing and perceiving (Gibson, 1972). Visual input may facilitate memory recall and meaning reconstruction to enhance interview narratives (Ruppert and Eiroa-Orosa, 2018; Ziller, 2000). Because experiences are multi-sensory, adding sensory support, such as images, may aid the “adjectivation” of experiences (Gonçalves et al., 2011, p. 3). This may increase the rich details needed for meaning construction in stories of employability. The convergence of storytelling and visual stimuli presents an opportunity to advance career and employability narratives (Taylor and Savickas, 2016).

This study makes several conceptual contributions to the serious storytelling of employability in higher education. Graduate interview narratives are stories of employability; however, the truism that human beings are natural storytellers may obscure the challenges of storytelling. Findings from this study show that narrative competency cannot be taken for granted. Although a level of bio-linguistic ability in humans may be recognised (Chomsky, 1965), it does not rise to the occasion of contemporary interview storytelling. This is important to recognise because the premise of an innate narrative ability found in literature aplenty (McAdams and Adler, 2010; McAdams and McLean, 2013; Murray, 1997; Parkinson, 2009) is not supported in empirical studies. In the case of the epitome of employability storytelling-interview narratives, training is necessary and image stimuli can be beneficial.
Visual stimuli, or other types of sensory stimuli, may invigorate narrative interventions with a multi-sensory approach (Bennett, 2016; Gonçalves et al., 2011; Taylor and Savicas, 2016). Additionally, contextualising the intervention as a normative change portrays interviews as a dynamic situation and presents a way to systemise the relationship between factors that could affect stories of employability in interviews.

Practically, this study contributes to evidence-based practice of the past-behaviour interview storytelling approach, especially the STAR format. Career advisors, trainers and educators who apply the format in employability storytelling are now presented with evidence of the training method. They could also consider using a multi-sensory approach to optimise the training, which may benefit students and clients of diverse learning styles. The brief intervention using basic images were sufficient in producing a meaningful difference in the interview narrative quality, which is positive news for feasibility and scalability. Further, the findings may support arguments for curating images when documenting employability development, such as in eportfolios, thus informing the design of employability technology.

Methodologically, the study is the first in the behavioural interview literature to have used a double-blind randomised control trial with repeated measures to examine interview narrative quality. Incorporating images, the study also adds to the body of evidence in visual narrative intervention research. The experimental design enables the discernment of effects in the presence and absence of image stimuli while minimising threats of history, maturation and other potential confounding factors that can weaken the internal validity of this study. By singling out the textual form of interview narratives from performance, effects from confounding factors were eliminated. Other important covariates including practice, assessors and participant characteristics had also been considered, giving us a clearer picture of the effects of training and image-supported intervention.

Limitations
We note several significant limitations to this study. First, although the effect of images was confirmed, care must be taken in generalising the results across other forms of visual stimuli. The focus on narrative quality in textual form also accounted for only part of interview storytelling, therefore not fully predictive of the overall interview performance or employment successes (Saks, 2006). The small sample size posed questions of generalisability of the results although previous studies confirming insufficient narrative competency mitigated this issue (Bangerter et al., 2014; Brosy et al., 2020). As noted earlier, there existed a confounding relationship between practice and training; hence, we were reserved about the exact effect sizes of training and practice.

Conclusion
Stories of employability are common byproducts of graduate capability development within and beyond the curriculum. Good stories of employability reflect more than quality learning and teaching. For students, the stories materialise into behavioural evidence to meet selection criteria in job applications and selection interviews (Goodwin et al., 2019). For employers, past-behaviour information surpasses interviewees’ job knowledge in predicting job performance (Hartwell et al., 2019). For higher education providers, employability storytelling provides alternative measurements of graduate capabilities and successes which, compared with full-time employment rates, manifests depth, diversity, nuances and personal impacts (Jackson and Bridgstock, 2018). Collectively, stories of employability evince a counterargument of the skill gap phenomenon in higher education as a discrepancy in the articulation, rather than the possession, of satisfactory skill sets (Pretti and Fannon, 2018). Identifying the sources of insufficient competency, as demonstrated in this study, is important to clarify the skill gap phenomenon (Brauer, 2021).
Despite the importance of employability storytelling, there has been little discussion on how best to train students in constructing employability stories. If this is an overlooked area because telling one’s past stories was believed to be an easy task, this study has delivered the counter-intuitive news that telling stories of employability is much harder than one thinks. Although our lives are intertwined with storytelling in the public and private domains, findings from this study suggest that narrative competency cannot be assumed, even when it is purposeful and incentivised by career prospects, such as in the case of interviews. Using the prime example of employability stories – the interview narratives, this study shows that training and intervention are necessary to help students become competent and competitive authors of interview narratives.

Sensory input, including visual stimuli such as images, may be a resource to provide valuable support in narrative interventions (Lin-Stephens, 2020b). Trainers and educators involved in the use of employability stories for employment or education purposes may explore multi-sensory narrative career interventions to suit clients’ diverse learning styles. Other types of visual and sensory stimuli to facilitate interventions are recommended for further investigations. One research direction is to examine the effect of visual input into learning technologies to support employability storytelling. For example, evaluating the visual or multi-media artifacts in eportfolios may shed some light on the narrative construction of experiences (Shea and Parayitam, 2019).

Research potential also exists in studying interview narratives in the context of broader career narratives (Cardoso et al., 2014; Vilhjálmsdóttir and Turinius, 2009). Interview narratives may offer a window on strength-based and action-oriented narratives (Young et al., 2014). Future research may also explore the relationship between stories of employability and interview successes or graduate outcomes. This may involve investigating other forms of changes that training may initiate beyond normative changes, namely, complying with interview narrative requirements. To this end, future research must study interview storytelling including oral performance, where covariates, such as interview anxiety, must be considered (McCarthy and Goffin, 2004). As competency is a complex notion (Le Deist and Winterton, 2005), further delineation of the many facets of narrative competency is recommended. Replication studies using larger sample sizes in different settings on different samples are encouraged. Further studies comparing the effect of practice and training may clarify the effect of both covariates with greater precision. Finally, it remains unexplained how the image support yields positive results; therefore, further investigation examining characteristics of participants’ image use is necessary to reveal the mechanism of the improvement.

References


Corresponding author
Serene Lin-Stephens can be contacted at: serene.lin-stephens@sydney.edu.au
## Interview narrative quality rating scale

<table>
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<tr>
<th>Submission ID</th>
<th>Narrative conformity</th>
<th>Relevance</th>
<th>Conciseness</th>
<th>Total</th>
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<tbody>
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<td>Deidentified</td>
<td>0-10</td>
<td>0-10</td>
<td>0-10</td>
<td></td>
</tr>
<tr>
<td>Pooled, not in chronological order</td>
<td>10: full conformity with all story elements, including situation, task, action, and result of a single event from beginning to end</td>
<td>10: complete relation of the response to the skill, attribute, capability, or other targeted criteria in question</td>
<td>10: utmost compendiousness, sufficient information without excessive, repetitive, or redundant information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5: average conformity</td>
<td>5: average relevance</td>
<td>5: average conciseness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0: no conformity</td>
<td>0: no relevance</td>
<td>0: not concise at all</td>
<td></td>
</tr>
</tbody>
</table>

Deduct marks in increments of 1 point from 10

**Note(s):** Add as many rows as needed