In this chapter we focus on

- Why the ancient art of storytelling, which uses the power of the human voice, is valuable for teaching, research and social impact practices.
- How recorded audio can support the teaching practice by using it in student feedback and assessment for and of learning.
- How to (carefully) utilise storytelling as part of research and social impact.
- Some practical advice on how to start recording your digital stories.

**Keywords:** Human voice; storytelling; audio feedback for learning; audio for teaching; audio for research.
3.1 Introduction

_We often refuse to accept an idea merely because the tone of voice in which it has been expressed is unsympathetic to us. – Friedrich Nietzsche_

The evolving digital scholar as Storyteller has an audience in mind and wants to convey a clear message. We might even go further and say (nodding at Nietzsche) that the digital scholar also wants to convince and make a rhetorical appeal. Like in the role of the Author the Storyteller remains in control of the scholarly narrative and engages in communication with the audience. The difference is that while the digital scholar as Author is mostly writing for fellow experts, the Storyteller is starting to communicate with a broader audience and needs to create a more memorable, accessible narrative – something the audience (readers or listeners) can connect to and retain. Here we find ourselves in the powerful realms of the story, of the human voice and of the world of audio.

Storytelling is the ancient art of sharing knowledge through the social representation of not just information but also emotion (Joubert, Davis, and Metcalfe 2019). A good story (told well) taps not only into the logical-rational mind of the listener, but also into the emotional mind (Siobhán McHugh 2014). As such it draws the listener into the Storyteller’s world and there engages, confronts and informs him/her through the transformative use of plot, characters, twists, climax and tying up any loose ends. The mind loves stories, and the evolving digital scholar can use this reality to craft creative and world-changing stories around his/her knowledge endeavours and how it might affect the way we see the world, or even how the world functions.

Stories told through (written) words alone can already make a difference to the digital scholar’s teaching, research and social impact influence. If the telling of these stories is coupled with a real human voice, then the impact and transformative power of the story are potentially amplified.

This amplification happens because the human voice functions as a mirror to the mind and character of the storyteller. The human ear and mind are so attuned to other humans’ voices that it can detect not only the surface meaning of the words in spoken form, but also the deeper, richer meanings, convictions and emotions that are almost impossible to convey with only written words. It also mediates the non-verbal – a pause, a gulp or a breath is often loaded with meaning and insight (McHugh 2014). Cutting edge artificial intelligence research into the human voice goes so far as to suggest that each person has a unique vocal signature, and that one can deduct from a
few spoken lines of audio how a person looks, what environment they live in and even which underlying illness a person might have (Singh 2019). It certainly gives the listener a nuanced opportunity to get direct access to the storyteller’s feelings, emotions, resolves or uncertainties, and in that way creates a very authentic listening experience: that slight pause indicating that there might be something more the person is not willing to talk about or the sudden rise in excitement or even anger which can become an invitation to suspend disbelief and to open the mind to new possibilities of thinking, acting or being.

3.2 The power of the human voice, audio and the telling of stories

The power of stories and the human performance of them is of course as old as civilisation and part of the human experience since time immemorial, so we have to also ask what is different when digitally producing and broadcasting these audio narratives?

In the excellent FutureLearn course, The power of podcasting for storytelling, Siobhán McHugh (McHugh 2020) shares the following reasons why audio is so powerful: (a) audio can capture the intangible aspects of a story and thereby can add authenticity; (b) audio can capture the non-verbal aspects of a story, interview or podcast, thereby mediating a more honest experience that is not as scripted as text or video; (c) audio does not care about or put emphasis on physical attributes such as appearance or mannerisms which allows for empathy and connection; (d) audio creates the best combination of words, sounds, and imagination – listeners co-create the story through imagination and interpretation; and (e) there is an emotional and affective appeal in listening. According to her it’s “partly about the temporal nature of sound – unable to jump ahead as in text, or freeze-frame as in film, the listener develops a pact of intimacy with the sound or speaker as the audio unfolds in real time” (McHugh 2020, section 1.4).

Paul Zak talks about audio stories creating a “narrative transportation” (when there is tension in the story and the listener is engulfed in the story because of the release of oxytocin) and a “neuro ballet” in which the “reader, viewer, or listener knows she’s not physically part of the story, and yet she still physically responds to it in a way that can change her behaviour in the future” (Wen 2015).

The telling of stories, especially when done through the medium of audio, is something evolving digital scholars can therefore utilise to their advantage. In the world of teaching, audio and stories can create more effective
active learning, student engagement and especially a way to provide critically important student feedback. In the realm of research, the process and product of the scholar’s scientific contributions can be bolstered by storytelling (although there might be a slight caveat). For social impact, the telling of scholarly socially significant stories, amplified through excitement, urgency and deep love for a discipline, has the potential to fight fake science and news and to transform society and the world.

3.3 Using audio in Teaching and Learning

The first and most prominent use of audio in teaching is the creation of powerful cumulative knowledge-building resources. The second has to do with assessment for and of student learning.

3.3.1 Creating audio teaching resources

The digital scholar as Storyteller can add an important (maybe missing) layer to teaching as he/she creates short, concise, personality-infused, similar-to-stories lectures, talks or even podcasts. As we will see in Chapter 5, integrating multimedia draws on Universal Design for Learning (UD4L) principles and underlines the importance of creating audio and written transcripts when you publish a video. So, audio plays a very important role in providing access to visually impaired students – especially if the audio of the video contains descriptions of the important non-verbal video elements. But here we are talking about creating an audio-based learning experience which is also not reading your notes verbatim into a microphone. Of course, UD4L best practice calls for the creation of a transcript of that audio-experience.

In terms of UD4L, audio is one of the distinguishing factors towards creating accessible educational resources, not only in terms of disabilities, but also as a more equitable low-data usage strategy. Audio resources could include short lectures to explain threshold concepts, short introductory notes to a new topic by giving an overview of what to expect, a short introduction of yourself to your students at the start of an online course, or a discussion forum post only in audio with you inviting your students to respond in audio. It could also be posting a radio interview with yourself on the topic at hand, an interview or even a dialogue with an expert in your field.

This could of course be done quite flexibly and on the fly. Our smart phones typically have very capable microphones, and using the built-in or specialised recording apps we can easily share an audio post on the learning management system (LMS) discussion forum while standing in line at the
pharmacy or record an impromptu interview with an expert you bump into in a coffee shop. You could record urban or rural sounds, animals, people, trees swaying in the wind, machines – anything that could become interesting and authentic material for teaching your subject.

Once the audio-bug has bitten, however, many digital scholars ‘up’ their recording ‘game’ by investing in a decent microphone, headphones and even a little audio-mixer and consider improving the sound dampening profile of their home office. If you want to take it even further you can find out if your institution has a recording studio (with excellent sound-dampening as well as high quality microphones) that you can use, or if your institution’s learning spaces have high end audio equipment (or even cameras) so that you could ‘perform’ your lecture/ talk or message in that space and record the audio and video.

And then you could start by creating your own podcasting channel …

3.3.2 Using recorded audio feedback in assessment for and of student learning

Recorded audio feedback (RAF) can be a powerful tool for (formative) as well as of (summative) learning, as we know that high quality feedback positively impacts student performance. When we realise that our students prefer audio rather than written feedback, it is an approach one probably should explore. Hayman found in his study of sport coaching students that 79% students listened to his audio feedback within 60 minutes and only 6% preferred written feedback (Hayman 2020). It can also contribute to rapid student engagement and an enhanced student experience. Looking at the use of recorded audio feedback (RAF) in cross-cultural e-education environments, Heimbürger (2018, p.108) concludes that:

“audio feedback has also been noted as bridging a gap between the learner and the supervisor and being a time-saver for the supervisor … With RAF, supervisors can use clear and effective, often less technical, language in order to convey their message to learners. Specific subject-related vocabulary can be explained in a more conversational style or uncomplicated manner than it can be in written format. RAF is often more nuanced than written feedback, with meanings being derived not only from the spoken words but also from the tone of voice, which can be used to convey an overall impression of the feedback.”

The value of audio feedback lies in the fact that it is possible to give more in-depth responses and more personal feedback than in written feedback.
It also has the potential to create the perception of care and support and so contributes to the humanising of online learning. Furthermore, it can move away from only focusing on problematic aspects and indicate ways to improve a student’s work, and has the potential for clearer and less ambiguous feedback (McCarthy 2015).

Case study: Audio feedback in a Blended Learning Short Course

At Stellenbosch University we offer an Introduction to Blended Teaching and Learning short course and participants have to complete a capstone project to obtain a certificate. The submissions are made on our LMS and graded with a rubric and open comments. To create a more personalised constructive formative form of feedback we started giving audio feedback on the assignments by either recording it in Audacity (or on a smartphone) and uploading the audio file against the participant’s submission or using the built-in audio recorder in the LMS. The participant feedback on this way of giving academic feedback has always surprised us. The lecturers love getting such personalised comments which connect them to their teaching practice, their faculty and our shared institution. As such they are not just getting a grade but getting a kind of invitation to join the institutional community of practice around blended learning practice. How to give such audio feedback has become fairly easy in our digital world of which higher education is part and parcel. Most modern Learning Management Systems (like Moodle, Blackboard and Canvas) have the ability to create audio recordings within the editor application, or as part of the feedback options when grading students' assignments. You basically need a laptop, enable/allow use of the microphone, and then press record, stop and then save or submit the recording into the discussion forum or assignment tool. If the LMS itself does not have built-in recording functionalities there are many ways to record your feedback on your laptop or smart phone, with native or special voice recording applications. You record the audio on the device, save the audio file (usually in .mp3 format as that creates the smallest file size which can play across all devices) and upload it into the LMS at the point of feedback.

Another way of giving audio feedback is to insert your audio notes directly onto a student’s document. In Microsoft Word it is now possible to insert audio notes that you record directly while in the application. You save the audio notes with the file and send them to the student. With Adobe PDF reader it is also possible to add audio notes for feedback (or even when you want to make audio annotations on a journal article). Finally, you could even record your audio feedback and send it as an e-mail attachment, a WhatsApp message or Microsoft Teams voice note to the student.
These are all teacher-led RAF activities, but you could of course open this exciting world of audio to your students as well. You could have them make podcast series (in teams), develop digital stories, do oral exams over Microsoft Teams, Zoom or Skype, record field notes and interviews with experts, or take part in audio-based discussions on the LMS.

This is an expanding field of digital educational practice and one that is worth investing time and energy in!

3.3.3 Creating Digital Stories for student engagement and reflection

Although not a direct practice of the EDS, the use of digital story-creation by students for assessment and learning has become a powerful strategy to further student engagement and especially reflection: “digital storytelling provides a potentially powerful tool for rethinking and supporting assessment practices in higher education, which can lead to students acquiring high-level reflection, and as a result lead to deep learning and development of higher-order thinking skills” (Ivala et al. 2013, p.224).

Case study: Digital (video) stories on plant propagation and nursery design

For years now Dr. Michael Schmeisser, a Stellenbosch University Hortology lecturer, has been asking his second year Crop Production students to create digital story movies around plant propagation and nursery design. Michael’s case study concludes regarding the stories: “Although digital stories have not yet been used extensively in scientific fields, with some modifications, the digital movie format is an effective way to take students through the process of engaging with content and presenting it in a concise way. The students do engage with the information and find the process more interesting than traditional lectures, feeling that they learnt more about the topic than they expected. The movies that are produced are highly creative and diverse and students who are not academically strong can do well in this project. Many students go beyond the scope of the project guidelines, adapting the project to their own interests. The project is also very authentic in terms of the way that the question is asked, the requirement for a business proposal and the presentation of the work in a format that is interesting” (CLT 2016, p.3).

StoryCenter provides a wealth of information as well as workshops (and of course stories as well) on the creation of digital stories for the EDS to peruse and apply.
3.4. Research and social impact perspectives on storytelling

This section brings us into the realm of science communication and how stories (and audio then of course) can support the peer and public understanding of your research and the implications thereof. Joubert, Davis and Metcalfe (Joubert, Davis & Metcalfe 2019, p.1) call storytelling the “soul of science communication”:

“In a world where we increasingly look towards science and technology to find answers that will help us secure a fair and sustainable future, it is imperative that people become empowered to make informed decisions about issues rooted in science. To achieve this, science communicators must make science-related information engaging and relevant. In short, it is about making people care. That is why we need to go beyond presenting facts and evidence, towards creating emotional connections between scientists and publics.”

Suzuki et al. (2018, p.9468) concur on the value and persuasive use of stories: “It is now more urgent than ever that scientists take an active role in engaging with and educating the public about what they do as scientists, why they do it, and why it matters. It is in this context that many scientists hear about the craft of storytelling.” They go on to talk about how the backstory behind how a research question was born is often as interesting as the data the study generate as it serves in the “meaningful transfer of knowledge because it elicits participation and creates an intellectual investment and emotional bond between the speaker and the audience” (Suzuki et al. 2018, p.9468).

It, however, seems to be more a case of using the strategy when engaging non-expert audiences and that a narrative approach could offer “increased comprehension, interest, and engagement” (Dahlstrom 2014, p.13614). For storytelling to scientific expert peers, the critical opinion of Katz should be kept in mind as one of the dangers of scientific writing following journalistic ‘storytelling’ is that “the choice of what data to plot, and how, is tailored to the message the authors want to deliver” and the pitfalls of an approach and the “experimental complexities and their myriad of interpretations” are sanitised (Katz 2013, p.1045).

In the very practical handbook, Research: How do you get it out there? (De Haardt and Van de Water 2015), five reasons are given why one should publicise or communicate about one’s research more: (1) more support (and possibly more funding); (2) widen one’s network; (3) makes one more
accountable (when using public funds e.g.); (4) it provides satisfaction to the researcher; and (5) one is not alone in that there is help available. The authors then provide lots of very useful tips and tricks for successfully using different kinds of media/storytelling approaches: from how to make sure your story has a “wow” factor and how you get into the media, to how to look for support and assistance at your own institution and tips from experts on press releases, presentations, TV or radio interviews, taking photos, making scientific posters, social media, and video. It is well worth the read!

3.5 How to record, edit and publish good audio

Since we have touched upon some of the basics of recording for teaching and learning (focussed on the LMS) in the above section, we will briefly provide some pointers and practical tips for starting with high quality audio recording. We mention high quality because in a multimedia project, audio is the most important part to get right. You could have a great video or animation, or your story could be gripping, but if something is “off” with the audio (too soft, background noise, hissing, too loud etc. – therefore, anything that disrupts the quality of the audio) it diminishes the impact of that resource. High quality is of course not only technical (like a clean and clear and well-balanced sound) but also the quality of your presentation. You should be excited about (or at least sound interested in) your own research or topic or how you give feedback. As we have learned, the human ear and mind can pick up the tiniest of nuances in the voice, which includes non-verbal aspects of boredom, uncertainty or even hostility. So, before you switch on your microphone and press the record button, be sure to prepare your voice, mind and attitude for the task at hand!

Microphones are central to the quality of your recording and the price of the microphone is most often a reflection of its quality (the more expensive the better the sound). To start off, you could invest in a good quality USB headset. Then you could possibly consider a podcasting microphone (usually a bit more expensive and comes with more audio settings) and then an audio-mixer. As we have already mentioned, do not discard your smartphone as an option. Some high-end smart phones have excellent microphones and if one buys a microphone that can plug into the phone, one can reach quite high sound recording quality. High end laptops also have decent microphones, and as an evolving digital scholar one could experiment with that and see if the quality of the recording fits the need for the recording. What we mean is that not all recordings need to be perfect. A quick voice
note for the discussion forum could be made on the laptop microphone and sent off without thinking (or even editing). Your next podcasting recording, however, needs more attention with regard to the microphone and the environment one records in as well as editing of the raw recording.

Where one records can make a big difference and it (hopefully) goes without saying that recording in an open office or in one's kitchen while the pasta is boiling on the stove and the cat is interested in walking on your keyboard is not conducive to a good quality sound recording. Find a place as quiet as possible where one will not be disturbed (especially where there is no air-conditioning, or where the air-conditioning can be switched off). Do test recordings, and if one has control over the levels of the incoming audio from the microphone experiment until the sound is acceptable (remember the human ear is the best quality assurance instrument – if one doesn't like it, others probably will not either). If the room is sparse (no chairs with cushions, or a wooden floor, or no curtains e.g.) the sound quality could be hollow and could be improved by putting sound dampening items in the room (like cushions or blankets over the cupboard door). We have even gone so far as to throw a thick blanket over your head and the computer to create a sound-proof little (very hot) recording space!

Software to record is also not a hurdle as the modern operating systems (like Windows 10 – Voice recorder and Apple Mac OS – QuickTime) come equipped with recording applications. Mac even added a (pay for subscription) native application Podcast Studio to its newest version. Then there are the free powerful tools like Audacity and Garage band and moving to more paid-for and expert packages you could consider Camtasia Studio or Adobe Audition. Smart phone apps include AudioCopy (for iOS) and Soundcloud (for Android) as well as a myriad of other apps like Hindenburg. And if one has internet access one can easily record one's audio directly in the internet browser at services like Otter or Cleanfeed. Otter will even create a transcript of your audio automatically!

Where to host your audio is also straightforward. There are open platforms that are free up to a certain amount of storage, like Soundcloud, Anchor or even Google Drive. Google has its own podcast service, and so does Apple (with iTunes Podcasts). One could also use YouTube or any of the many podcasting services available.
3.6 Suggested way forward

- Start focusing on finding excellent stories (especially academic related ones in your discipline) or listening to podcasts that can give you a vision of the quality and depth that is possible with telling powerful stories for teaching, research or social impact.

- Start making digital stories yourself. Are you ready? Find somewhere quiet and open your phone’s voice recorder. Think about the following question: *How can I use audio to teach more creatively in my subject?* Order your thoughts about it and then record your response, trying to remember all the good things about audio and the human voice that you have just read and maybe choose one of the ideas that was shared. Congratulations (if) you have made your first voice recording! Now make yourself heard …

3.7 Final thoughts on audio and stories

*Words mean more than what is set down on paper. It takes the human voice to infuse them with deeper meaning – Maya Angelo*

Evolving one’s written work as evolving digital scholar Author by complementing (or replacing some of) it with one’s own and other powerful human voices, intentionally recorded to teach, or communicate, or influence, or transform, or build knowledge, is an invitation to awaken the storyteller inside.

Evolving or growing as digital storyteller or digital story-enabler probably follows the route of starting small with your own course or small research project for your own students and then growing from there. One can grow technically by acquiring better recording equipment and improving one’s recording environment and immersing oneself in the “physics” side of sound and sound engineering. Conceptually, you grow by trying different genres of audio, story and the power of interviews and podcasts, becoming good at it and then trying something new. Scholarly you evolve by being a reflective practitioner on your digital audio storytelling teaching and science-communication endeavours and sharing those reflective insights through telling your story at seminars, conferences or any form of publication. Finally, you grow by combining human voice forces with a colleague or co-researcher to enable your transformative educational message to be heard and celebrated on an open and global platform!
References


