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The Inclusive Classroom: Wellbeing and the HE Musician

Andrew Lansley

1. Introduction

The focus of this study will be on the use of technology in addressing teaching and learning challenges faced by students diagnosed with autism spectrum disorder (ASD) in creative musical contexts within the classroom. I will be exploring the use of next generation technology using Living Education Theory to facilitate a transformative approach through action research (Atkins and Wallace, 2012: 171). This project will take the form of a collaborative student investigation involving two modules that challenge music and non-musical specialists in a creative context, where implications may suggest that barriers exist in accessing learning materials and engaging with group work within the

classroom. The aim of this study is to develop more inclusive learning environments, removing barriers for those who benefit from support with their mental health.

This study has been inspired from my own experience with ASD and the barriers I have faced in engaging with group work and through travelling the world performing music in challenging and ever-changing environments. Over time I have observed fellow musicians and students becoming overwhelmed with busy performance schedules, practice commitments, and the complex social and technical challenges these environments present. This made me reflect on the environments many musicians operate within and how this could be adapted to promote a more flexible approach in how learners work in creative and musical contexts. In order to gain an understanding, I identified areas of study that might be challenging to students with ASD and what could be done to address them. I decided to investigate the delivery of creative practice teaching to students and how materials were both prepared by myself and utilized by learners. Analysis will give broader insight(s) into my investigative process which guided the research over a period of 12 weeks.

A community of practice approach allowed me to draw conclusions from this study and provided a rationale for the

interpretative, expressive use of technologies, exploring the application of these technologies to learner practice and responding to the experience of the cohort. The findings will critically comment and evaluate the practical merits in response to a review of current literature, module evaluations and qualitative commentary on the experiences of students. A conclusion will provide a brief summary of the main themes that have emerged as part of this investigation with key findings suggesting that technological enhancements to the delivery of a curriculum can provide benefits to learners.

Although it is hoped this research is able to offer a meaningful perspective to the current conversations around wellbeing of the creative learner and associated educational strategies, it was also important that the primary goal of this project was to directly benefit those students who had participated in it. As Lawrence Stenhouse once wrote ‘What seems to me most important is that research becomes part of a community of critical discourse. But perhaps too much research is published to the world, too little to the village’ (1981: 17).

2. Background

Music educators, administrators and policy makers must play an active role in providing supportive environments where health and wellbeing is

considered integral to expert music training.
(Araújo et al., 2017: 1558)

It was the needs of the students that generated the first steps in setting up this project, with an anecdotal conversation with a learner that led to the establishment of a working group. During a class task held within a session I noticed a student had copied the lecture content into a new slideshow and had begun amending the text, slide colouration and font using Microsoft Office software installed on the in-class computers. The student was using these amended lecture slides to follow both the lecture content and the task brief. I made a comment to the student that her formatting was much easier on the eye than my own slides, to which she responded that she found it difficult to read the slides I had prepared due to the high contrast of black text on a white background. The student went on to share that she downloaded and amended my lecture slides each week and saved separate versions of her own. The experience of having difficulties looking at bright, contrasting colours is not unusual for those who experience sensory sensitivity – in their paper on atypical colour preferences in children with autism spectrum disorder (ASD), Grandgeorge and Masataka (2016) state:

enhanced sensitivity to sensory stimulation in general that is characteristic of ASD would influence colour perception exhibited by people with this disorder, and

this would result in aversion to some specific colours that are usually favoured by neurotypical people. (Grandgeorge and Masataka, 2016: 2)

It is widely recognized that colour perception is different with those on the autistic spectrum (Franklin et al., 2008) so this chance conversation with a student presented an opportunity to explore the development of amended teaching materials. With the student feeling they needed to access and change my lecture slides in order to absorb them, I felt the responsibility lay with myself to provide alternatives. There are materials already available to help design content for users on the autistic spectrum, such as resources available via the Home Office which provided a good starting point for reviewing and refining my teaching materials.

As this project came through a process of development rather than design, the self-selecting nature of the groups were defined by the needs of the learners rather than the requirements of the practitioner. There were five students across two creative production classes who were already declared as students with ASD. I contacted them individually to ask if they would be happy to help develop alternative lecture content and format that might help improve their ability to absorb the curriculum and address potential sensory issues that might otherwise impact on their ability to engage with the module content and associated in

class workshops. I felt that it was important these students were included as part of the research process rather than necessarily being a subject of it. As stated in a draft framework for inclusive autism research 'the vast majority of research in autism is still undertaken on autistic people, rather than *with* them, and is often not concerned with improving the day-to-day lives of people with autism' (Chown, 2017: 720).

As I had also been diagnosed with ASD, I felt I should share this with the working group in order to remain as transparent as possible. This was also in an effort to relate my own interest in this area to their experiences. In this sense, acknowledging the concept of educational influence was important as the idea was to encourage students to be critical in relation to the existing content and how it could be improved by leading by example. As McNiff and Whitehead (2009) state, 'in order to encourage other people to become critical you have to demonstrate your own capacity for critical reflection on your own thinking'. This was an especially important consideration in ensuring good professional and academic conduct was followed as far as was realistically achievable as a methodology was developed.

Having looked at the suitability of the group to undertake this project and considering the technological strategies that might facilitate any amendments to the curriculum content, it was

decided to review the most significant mental health challenges facing students in higher education against the obstructions they might face in class. This was done in order to better understand how these challenges might present themselves in learner behaviour and how they might be addressed through adaptive module content change.

The focus on wellbeing of the students with ASD was critical due to the occurrence of autism together with a number of mental health issues (White, Oswald, Ollendick, and Scahill, 2009). When considered alongside the reported growth in prevalence of students suffering from mental health issues in higher education – with some institutes reporting a three-fold rise in reporting (Weale, 2018), challenges such as anxiety or sensory problems might be enough to deter a student from attending a class for personal reasons. Furthermore, issues such as Obsessive-Compulsive Disorder, alongside numerous non-assessed disorders such as phobias and depression (Matson and Nebel-Schwalm, 2007), can contribute significantly to challenges with a student's life – let alone the ability to engage productively with a cohort and curriculum in a creative and meaningful way.

In order to better understand the wider context of mental health issues that are faced by students in higher education in the UK, I consulted the *Grand Challenges in Student Mental Health* report

published by Student Minds. This report provides a framework that intends to empower students in how they can develop 'skills to support one another and the knowledge to look after their own mental health' (Student Minds report, 2018: 4). This appeared to be an appropriate resource for this research as it sought to empower/enable the study group through active engagement rather than attempting to develop materials in isolation. The report includes a section that outlines 'The 10 Grand Challenges for Students and Staff' and several of these findings were discussed as part of group communication and in class conversations in order to ascertain how different mental health issues might present themselves as obstacles within a creative/musical module.

Stress

Students reported that anxiety around studies, being unclear on learning expectations and pressure to do well in class were significant factors in how they experienced their studies.

Poor general understanding about mental health problems

Some of the participants recounted feeling either marginalized or isolated by peers (and in some cases by health workers or teachers) and that they found it difficult to communicate the challenges they faced.

Finding the Confidence to Ask for Help

Students discussed this as existing alongside the challenges they faced with the poor general understanding about their conditions. They were aware of the help that was available from both academic and professional services, but it was suggested that seeking help was a strategy only adopted when other avenues of support (self-administered or otherwise) had been exhausted. During initial conversations with the group of participants, two areas of investigation were outlined in order to construct a development process aligned with their concerns about the stress of not being able to attend or ask for help and how this could be addressed by improving access to the curriculum online. This established two areas of development: lectures presented in alternative colouration and a touchscreen-friendly learning environment to improve remote access.

I found the research from Student Minds was appropriate to share with this group, but stressed that the focus of a weekly community of practice approach was to amend content delivery as opposed to addressing mental health problems directly. Using this weekly approach allowed further flexibility in enabling me to respond with almost immediate adjustments to delivery. This method seemed to be an effective one due to the regularity of sessions with the students with whom I would be working, and

allowed me to review and adapt in class processes as they were developed. From here I had a foundation with which to build a platform for using technology as an asset in testing a new delivery format and making adjustments based on feedback from learners.

3. Methodology

Following this analysis of challenges faced by students with ASD in engaging with learning resources, I was in a better position to begin outlining a methodology for the testing and review of amended or additional materials with the group. For the purpose of clarity, this paper will address the learners with ASD as *participants* when discussing this study in order to distinguish them from *students* (who were passive in the development process) which I have used to identify the neurotypical (non-autistic) learners.

Action research was the preferred route due to the requirement to review the personal experiences of participants and the need to collaborate in how to best respond to their feedback. This allowed for a more robust interpretative and reflective process that incorporated a number of individual positions on the findings. This framework offered a more suitable basis for this research as it would account for these personalized experiences,

this method offering a 'pragmatic co-creation of knowing *with*, not *on*, people' (Bradbury, 2015: 34).

This research sought to unify the core functions of a community of practice with participants. To paraphrase McNiff and Whitehead (2009), this was done by addressing two critical components at all times with the learners: action (*what I did*) and research (*how I learned about and explained what I did*). This was an attempt to compensate for any unconscious bias so as transparent an approach as possible could be employed during this research. With a strategy to develop this idea established, I was able to define the two main aspects for investigation: preparing content that would be suitable for users on the autistic spectrum and the use of technology to facilitate module content redesign as the study progressed. The technological facilitation of curriculum adaptation was implemented via the institute's chosen virtual learning environment: Moodle.

The 2017 New Media Consortium (NMC) Horizon report identified Mobile Learning as a key adoption of learners in higher education. With next generation Learning Management Systems (LMS) launching within the next two to three years, this could suggest that emerging technologies can offer the tools to provide tailored variations of learning materials that put the

student first in how they choose to interact with any given curriculum. With a comprehensive and remotely accessible resource for students already in place, I was able to focus on the impact of amendments to lectures and format, as opposed to constructing an entirely new online learning resource. Both modules had significant online content developed already, with several years of refinement undertaken with learners through use of mid-module evaluations and learner feedback. Collaboration between the teacher and learner in creating a bespoke, personalized environment was outlined as one of the five domains of core functionality outlined in the Next Generation Digital Learning Environment report (Brown, Dehoney, and Millchap, 2015). Employing this approach would allow the participants to directly impact on the design, integration and accessibility of content as the study progressed.

Virtual learning environment developers have continued to add functionality that shifts the focus from enabling administrative tasks to deepening the act of learning (NMC et al) – it was important to recognize with the participants that the collaboration we were undertaking was a learning process in itself that did not just inform the way they were engaging with the curriculum, but how they understood the way they approached their own learning strategies. With Moodle used as

the online learning environment for this research, all participants were familiar with this format from their previous studies. As it was important to me that any amendments to the curriculum did not serve to disadvantage neurotypical students, I felt it was just as important to consider their experience so that I was not unknowingly attempting to solve problems in one area whilst simultaneously creating issues elsewhere.

The class resources for both modules were broken down into three sections:

- 1. Core information:** *Module overview, staff contact information, scheme of work, assessment dates and rubric grids.*

- 2. Lecture series:** *Weekly series of content for learners for use in class. All material is accessible from the first week of the semester*

- 3. Additional materials:** *Reading lists, links, previous work, guest lecture content, submission guides, further reading.*

These sections informed a scheme of work (Figure 1.) that was designed to progress alongside the expected developmental trajectory of learners based on previous experience running the modules. When the study group of participants was formed

(week 5) the class were preparing for mid-module evaluations which take the format of a three-question form. This anonymous process provided broad qualitative information about the learners' experiences: what they were enjoying in class, what they found challenging and suggestions as to how teaching and lecture content could be improved. This allowed for a more general, class-based view to be considered alongside any amendments that would be made in an attempt to ensure learners who were not participants of the study group were not unnecessarily disadvantaged.

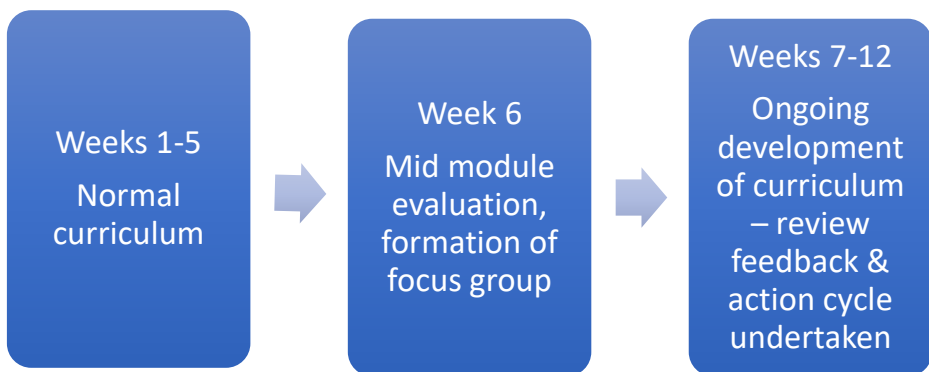


Figure 1. Curriculum development process over the duration of the project.

Reflecting upon previous conversations with the group of participants, as well as responses received from the students, two areas of investigation were outlined in order to construct a

development process aligned with the action research cycle:

- Lectures presented in alternative colouration
- A touchscreen-friendly learning environment

As outlined in Figure 2. and Figure 3., the cycle of action research was adapted to address both access to curriculum and sensory issues simultaneously. This allowed for findings to inform one another, with technology facilitating virtually all stages.

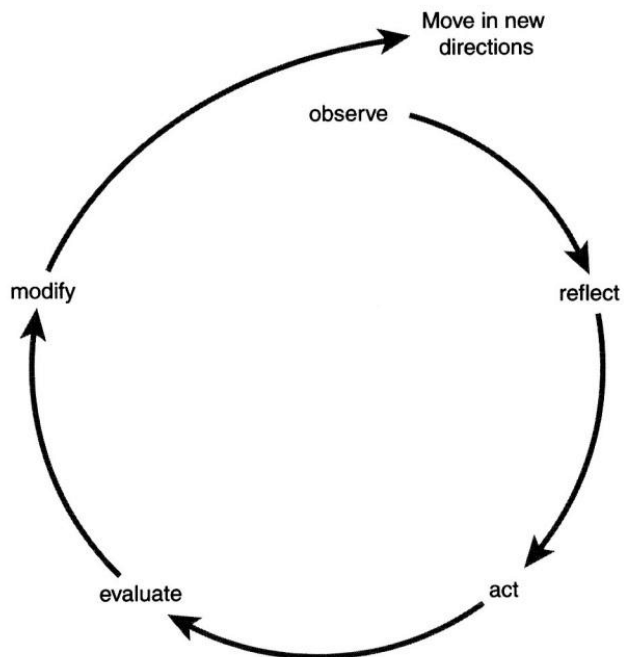


Figure 2. Cycle of action research (McNiff and Whitehead, 2009).

	Virtual Learning Environment	Slide colouration
Evaluate	A review of current online learning provisions was undertaken	Examples considered and discussed in group meeting
Modify	Moodle adjusted to touchscreen list format, including access to alternative slides	Two variations trailed, one selected and introduced to virtual learning environment
Observe	Study period of six weeks undertaken (Lectures 7-12), online activity recorded	
Reflect	Group meeting and email correspondence collating anecdotal evidence of usage and effectiveness	
Act	Moodle adjusted to grid format, additional navigational graphics incorporated	Slide colouration selected following group discussion, lectures amended and uploaded to course Moodle

Figure 3. Adapted process showing merged observation and reflection phases of the cycle.

Moodle Content

Originally, module content was presented in a list format, where users could scroll down through lectures sequenced week-by-week, with all content openly accessible from the start of the semester. Similarly, lecture slides were provided as part of this resource, with a single option of black text on white background. One of the first requests of the participants was to investigate touch-screen functionality so that materials could be accessed easily using a mobile device.

This was achieved by switching the aesthetic format of the learning environment from a list to a grid, which allowed the addition of pictures to each topic meaning that students could then access every section by touching a picture or icon rather than text (Figure 4.). Working with our learning technology team, I was then able to apply this amendment to the reading list, adding pictures of the book covers to links that would direct students straight to our library service (Figure 5.). The previous method of accessing reading lists via the Moodle system was by visiting a separate online resource for our library service, logging in, sourcing the text, and accessing. The impact of removing these steps was immediate, and responses received in the module evaluation the following week included a number of observations about improved clarity and functionality.

Slide Colouration

The participation group agreed amongst themselves that the colouration of the third iteration we discussed offered a good compromise (Figure 6.). This used a dark purple for text (HEX colour #3COA5E) and a light grey for the background of the slides (HEX colour #D9D9D9) which participants felt were much easier to read when compared to the contrasting black on white used on the original lecture slides (Figure 7.). Unfortunately, no records were kept of the development of different colourations, so could not be included in this report.

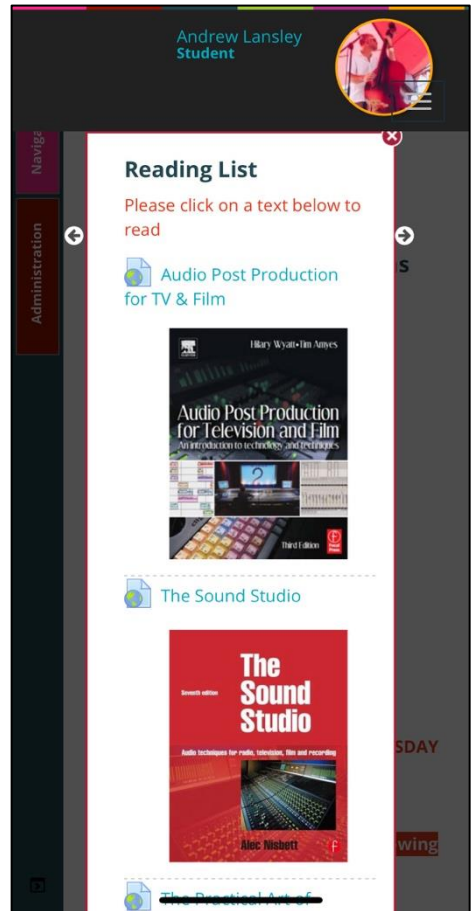
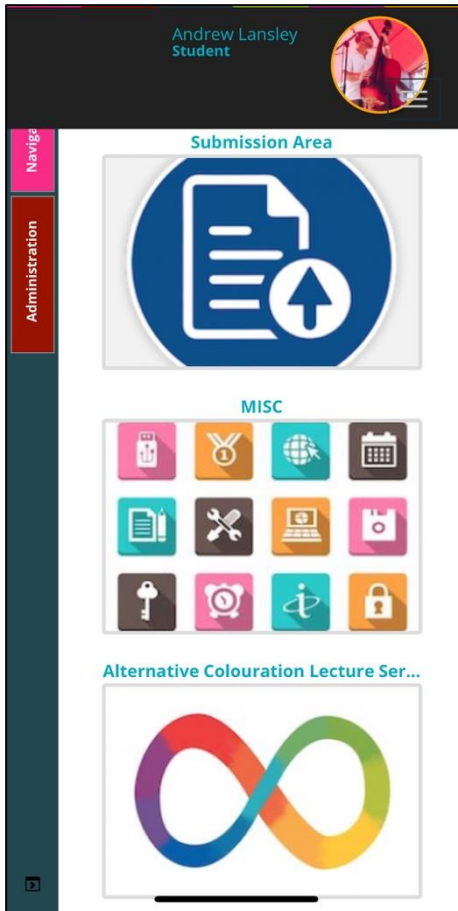


Figure 4 and 5. Curriculum formatted for mobile/touchscreen device use.

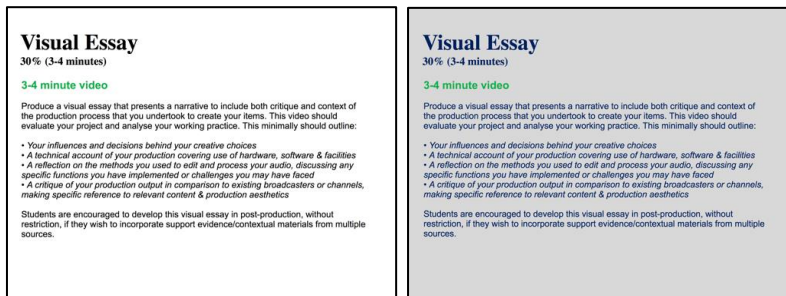


Figure 6 and 7. Lecture slides - colouration comparison.

These initial changes were reflected upon by the participants and feedback on the first round of modifications was offered through mid-module evaluations that were received from the entire cohort. Comments from the feedback included statements such as ‘Moodle is amazing’, ‘easy to read and follow’, ‘clear and concise’, as well as ‘is very clearly set out, you have what you need, and it stops you wasting time’. I believe that these observations highlighted the improved experience they had following the first round of modifications in the action research cycle.

The touchscreen format and slide colouration were two of the practical outcomes that were developed within the group - that were then subsequently deployed within the curriculum. Group conversations with the participants were held weekly from this point, informing any further adjustments to the learning

environment that were made as the semester progressed.

4. Observations and Analysis

This project has presented a number of challenges in that it has been difficult to collect data during the development, with a focus on responding to student feedback and implementing changes taking priority. This has limited the evidence I am able to present in supporting these findings. The scope of this research would have similarly benefitted from a larger sample.

What this research method has done has helped me to establish confidence in how I can identify challenges to learners and apply effective solutions through curriculum changes almost immediately. That has enabled me to go on to consider other content that I teach and make similar adjustments in the hope that I can be proactive in preparing for specialized learner needs across the modules I teach. I have been able to investigate and discover themes that were introduced through conversations in class and feedback sessions with these students and believe that the informal nature of this process was instrumental in helping uncover the barriers some of the participants faced when engaging with curriculum.

In addressing the understanding of sensory issues it was found

that the development of alternative colouration of lectures was popular with participants, reviewing Moodle traffic data reports it appears that students who were participating with the study engaged more with the online learning resources once content was being developed, and were more communicable as a result. This is likely due to them being the focus of study and having an enhancement knowledge of the module content through more contact time with their module tutor.

In response to participants concerns about accessing content remotely through improving the format and design of the Moodles, overall mid-module feedback given for online resources (from participants and students) was very positive. Although this was taken very early in the research phase, the response was likely due to the existing clarity of formatting of module content and possibly due to an awareness that it was being developed and adjusted during the course of the semester.

One of the emergent aspects of the study was how supplementary content was formatted and presented. A 'how to' video outlining the use of a piece of audio sampling software was presented to the class in two formats – a link to a guide provided by the manufacturer and a three-minute video shot on an iPhone of the module tutor taking a student through the same

process. The conversational style video was preferred and this is likely to be the focus of another project following on from these findings.

Another theme that presented itself through the course of the project was how effective a coordinated staff approach was in recognizing the challenges these learners faced and how they could be supported. Assistance from faculty administrators ensured that resources and facilities were always appropriate and available, the learning technology team helped me to develop my understanding of Moodle and streamline how I used the platform to integrate alternative and additional content throughout an already well-established online provision. The institute's 'Student Helpzone' was able to offer anecdotal support and signposting to mental health and wellbeing resources that helped to inform this study as well as assistance from the Equality & Diversity Manager who was able to help provide ethical guidance in designing a strategy for what was a fairly informal piece of research.

Through applying a living education theory framework through action research (McNiff and Whitehead, 2009: 166) I have also been able to identify several developmental strategies that not only benefitted those taking part in the study groups, but the rest

of the students across both modules. I felt these methods also worked well when dealing with creative students working with sonic composition pieces, who also appeared to enjoy the design elements of adapting and testing the amended module content. Recognizable changes were discussed in several areas: personal growth, self-awareness and developing educational coping strategies, confidence in their creative abilities, as well as transformative attitudes towards their learning.

Within a few years (as well as with further consideration and collaboration), it is looking increasingly likely that it will be possible to develop a personalized virtual learning environment that removes the majority of obstructions that might be faced by learners who find accessibility, comprehension, collaboration, and socialization difficult when approaching creative work that is covered in this paper.

5. Conclusion

This short study has given me a framework to progress, but much more investigation is required. Using a multimodal approach to incorporating outcomes from within the study, a methodology began to present itself as a tool for onward exploration. The process of action research has allowed the study to respond quickly to findings, but a more robust methodology

should be adopted going forward; a larger sample of students, specifying particular musical focuses (e.g. practice, performance, composition, production) could all improve the quality of findings in these areas. Longer periods of practitioner development with cohorts across a more diverse spectrum of teaching materials and content could similarly generate additional research in this area. It can also be noted the students who find virtual learning environments off putting might find this process difficult to engage with, hence the importance of action research in a working group.

Considerations around big data emerging technologies and their analytical potential to deliver tailored educational experiences should not be discounted. Similarly, this affords the opportunity to explore the emergent partnership of data and didacticism - where learning technology resources could offer intervention and customization to material resources intuitively and individually. With further consideration and collaboration, it might be possible to develop a virtual environment that minimizes obstructions that might be faced by learners who find accessibility, comprehension, collaboration, and socialization difficult when approaching creative work.

In conclusion, I believe this study has identified genuine issues

students with ASD face in processing the colouration of lecture slides and accessing virtual learning resources. Through the formation of a working group, action research has helped analyze these issues and find solutions in how module content was presented and formatted. There was observable engagement with learning materials for the working group and amendments did not adversely affect the rest of the students. Several layers of educationalists involved meant rapid amendments to delivery was possible, minimizing disruption to any other students.

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