MSc Instructional Design and Educational Technology

FINAL PROJECT

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Can online learning and teaching serve as an effective strategy to support the academic

needs of learners in secondary schools?

11367 words

Abstract

This study is focused on online learning and teaching of a Scottish national qualification in Politics for learners aged between 16 and 18 years of age. Using a case study approach, this study looks at the first free complete online qualification provided by a school in Scotland using the *Dollar Discovers* website and administered by a teacher at Dollar Academy, a leading independent school in central Scotland. The purpose of the study was to identify effective teaching strategies that supported the needs and attainment of remote learners. The study was carried out during the Covid-19 pandemic and the case study includes one period of 10 weeks of national lockdown in which schools were closed for all but the children of key workers. Three key areas of focus of the case study include the capacity of asynchronous teaching and learning to support the needs of learners studying the Politics qualification online, the use of multimedia resources and individualised instruction to support and engage learners.

The body of research relating to the efficacy of online learning is limited and confined predominately to the experiences of higher education as opposed to secondary school education It is hoped that this study will contribute to growing research into the experiences of teenagers studying online. It is important to address this issue as the delivery of online learning is likely going to blend with traditional in-person classroom teaching and the delivery of complete online learning programmes are being developed daily. Using the science of how young people learn will help to support those instructional designers that are responsible for constructing online learning experiences and environments. The main findings of this study identify that a blend of asynchronous and synchronous learning supports learners of secondary school age and the mindful, research-informed use of multimedia resources along with personalisation and individualised instruction proffers an engaging and supportive learning academic learning experience that helps to develop academic attainment.

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Context of the study

Scotland is a devolved nation of the United Kingdom that enjoys legislative powers over education. The education system in Scotland offers a mixture of local authority-controlled schools and fee-based independent schools. The Scottish Qualifications Authority (SQA) is the main qualifications awarding body in Scotland. SQA has a statutory responsibility to provide public examinations for Scottish state schools. Scottish independent schools offer SQA qualifications but a number also provide qualifications from English and International awarding bodies.[1]

One SQA qualification available to learners is Higher Politics. This is a qualification designed for learners in their final year of secondary school or college.[2] As a result of the cancellations of examinations in Scotland for such learners in 2020 and 2021, the most recent data on the Higher Politics course is from 2019. In 2019 1213 learners were enrolled in this course[3]. From Source A it is evident that while just over a third of learners achieve an A grade, almost 50% achieve a B or C grade and just over 16% do not attain a grade that would be accepted by the majority of universities for progression on to further study. It is interesting to note the narrow margin (4.6%) between the percentage of learners achieving and A and B grade (34.4% and 29.8% respectively).

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[1] Scotland's Boarding Schools 'Academic Curriculum in Scotland'. (Last accessed 16.04.2021)
[2] In Scotland learners in their final year of secondary school or college will be aged between 16 and 18 years.
[3] Scottish Qualifications Authority, 'Course Report 2019: Higher Politics' (Last accessed 16.04.2021)

Statistical information: performance of candidates

Distribution of course awards including grade boundaries

| Distribution of course awards Maximum mark	Percentage	Cumulative %	Number of candidates	Lowest mark
A	34.4%	34.4%	417	77
B	29.8%	64.2%	362	66
C	19.5%	83.8%	237	55
D	9.6%	93.3%	116	44
No award	6.7%	-	81	-

Source A: Distribution of course awards including grade boundaries for SQA Higher Politics, 2019.

In May 2020 a project was begun at Dollar Academy, a leading independent school in Scotland, to provide an open source programme of online learning. This programme was named *Dollar Discovers*.[4] Dollar Academy offers the widest range of SQA subjects in Scotland and offers some courses which may not be available in other schools. Higher Politics is one such course. Where schools already provide a specific SQA course, Dollar Academy pledged work with teachers and share online resources to support the provision of this subject. The initiative is the first of its kind in Scotland. *Dollar Discovers* was created in partnership with the pioneering NuVu Studio[5] in the USA. NuVu built the Learning Management System (LMS) on which the Higher Politics course is hosted.

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[4] *Dollar Discovers* is an innovative online learning platform that provides complete SQA academic courses (one academic year of teaching and learning provision) and shorter 'Discovery courses', free of charge to learners across Scotland.

[5] NuVu brings creative education to students around the world. Its mission is to empower the next generation of young designers, entrepreneurs, makers and inventors who will impact their communities and world through their work and ideas.

Source B showcases a page from the LMS:
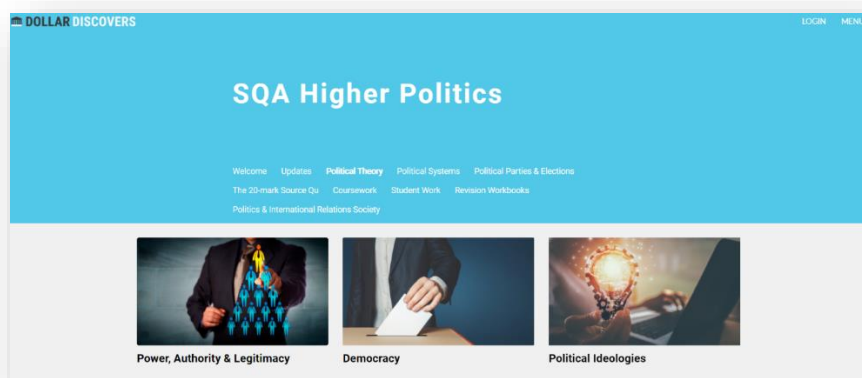
Source B: A screen capture image from the *Dollar Discovers* Higher Politics course hosted by NuVu.

The provision of open source education by Dollar Academy via its *Dollar Discovers* programme helps to widen access to high quality education resources, particularly for Higher Politics which has a relatively small uptake of learners.[6] The reasons for the low uptake centre around the complexities of timetabling and the fact that no teacher training colleges or universities in Scotland offer specific provision for undergraduates or post graduate students to train as Politics teachers. This has meant that schools are unable to offer Higher Politics unless their teachers are prepared to undertake additional studies and extensive course development work in order to provide the SQA Higher Politics course for their learners. *Dollar Discovers* provided a cost-neutral strategy to bridge this gap in provision and assist in the reduction of the education *attainment gap*[7]. This provision became even more significant and relevant in the wake of the Covid-19 pandemic.

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[6] It is noteworthy that in 2019, 1213 learners were entered by the SQA for a qualification in Higher Politics (see Source A) while in the same year, 35,461 learners were entered by the SQA for a qualification in Higher English. Scottish Qualifications Authority, 'Course Report 2019: Higher English' (Last accessed 16.04.2021)
[7] Scottish Government, The Scottish Attainment Challenge. Published 9th March 2021. Many children and young people living in Scotland's most deprived communities do significantly worse at all levels of the education system than those from our least deprived communities. This is often referred to as the 'attainment gap'.

In 2021 Audit Scotland published a report[8] that warned the poverty-related attainment gap in education '*remains wide*' and called for action to be taken by the Scottish Government in the wake of the pandemic. Teaching Union, EIS General Secretary Larry Flanagan said,

'The impact of poverty on children's life chances remains a matter of huge concern, and much more needs to be done to support young people living in poverty to overcome the barriers that they continue to face. Schools do all that they can with insufficient resources to support young people from all backgrounds, but cannot, in isolation, overcome such serious societal issues as inequality and poverty.

We have long known of the devastating impact that poverty can have on young people, and this has been made worse during the pandemic when young people from less affluent backgrounds have been far more likely to have had their in-school learning disrupted and to face barriers in accessing education out with the school environment' [9].

The report identified that while the poverty-related attainment gap persisted prior to Covid-19-induced Scottish lockdowns, the pandemic only served to exacerbate these pre-exiting education inequalities. Despite the nationalist-led Scottish government's commitment to reducing this education attainment gap, the impact understood from the aforementioned Audit Scotland report has proved inconsistent[10]. The Scottish Government launched the Scottish Attainment Challenge in February 2015 to bring a greater sense of urgency and priority to this issue. It is underpinned by The

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[8] Audit Scotland, Improving outcomes for young people through school education Published March 2021. (Last Accessed 16.04.2021)
[9] EIS, Audit Scotland Report Highlights Continuing Impact of Poverty on Education Published March 2021. (Last Accessed 16.04.2021)
[10] Audit Scotland Attainment gap remains wide and better education data needed Published 23 March 2021. (Last Accessed 16.04.2021)

National Improvement Framework, Curriculum for Excellence and Getting it Right for Every Child (GIRFEC).[11]

Without a targeted strategy to reduce the attainment gap between the progress which is made between those living in Scotland's least and most deprived areas, little will be achieved in terms of raising attainment. Raising attainment will not only improve educational outcomes for learners, but it will also contribute towards increasing the choices available to all in terms of future work and life. While government efforts such as the introduction of Attainment Advisors[12], increased funding for schools in the most deprived areas and support for inter-authority improvement partnerships, the attainment gap continues.

The *Dollar Discovers* LMS was designed to address this issue and support the learners who may not have access to subject-specialist teachers or multimedia resources. A Politics teacher from Dollar Academy built an online multimedia Higher Politics course over a period of eight weeks. The online course launched in August 2020. Several teachers signed up to access the open source resources to support their own delivery of the qualification and over 40 learners across Scotland enrolled as learners. Ten learners ultimately committed to the full academic course to receive certification in June 2021.

The intention of this study is to evaluate the impact the *Dollar Discovers* online Higher Politics course has had on learning experiences and attainment in Scotland. This evaluation will aim to uncover the

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[11] National Improvement Hub, Scottish Attainment Challenge Published 9th March 2021. (Last Accessed 16.04.2021)
[12] Attainment Advisors cover every local authority and a range of other specialist support provided to Challenge Authorities and the Schools Programme network.

instructional design strategies and educational technologies that enhanced the online learning experience during the Covid-19 pandemic. It is hoped that as a result of this study, best practices could be shared with teaching colleagues in all settings and contexts. It is the case that pivoting to online learning was complex given the short notice and the challenges that schools, parents and carers faced in providing reliable WiFi and adequate technological solutions such as laptops.

In person teaching strategies do not always translate seamlessly to the online world. It is likely that as we gradually move towards a return to in-person teaching and learning, online learning will remain a feature of many global classrooms. As such it is important that schools and teachers feel confident and digitally competent not only in the use of technology and educational technology products and services, but also in the designing of engaging, innovative and meaningful online learning strategies. While we may not experience another pandemic with such life-changing implications again in our lifetimes, it is perhaps the case that online learning will work in tandem with in-person teaching and so when adverse weather or absence impacts the flow of learning and teaching in the future, the pivot will not be so demanding and uncertain. It is hoped that this study will contribute to the research that is ongoing into effective online learning and teaching strategies.

The key terms that will be used in this study include:

Asynchronous - education, instruction, and learning that do not occur in the same place or at the same time.

This term will be used in this study to refer to the predominant mode of learning and teaching in the online Higher Politics course.

Attainment - Attainment is the measurable progress which children and young people make as they advance through and beyond school, and the development of the range of skills, knowledge and attributes needed to succeed in learning, life and work.

This term will be used in this study to refer to the academic attainment and progress made by learners enrolled in the online Higher Politics course.

Dollar Academy – A Scottish independent day and boarding school with approximately 1300 students aged between 5 years old and 18 years old.

This term will be used in this study to refer to the parent organisation of the Dollar Discovers website. It also refers to the place of work of the teacher responsible for teaching the online Higher Politics course.

Dollar Discovers - a website created in partnership with NuVu (see below) and Dollar Academy. The website offers virtual learning content via two key strands: SQA qualifications and Discovery courses. The Discovery courses are multidisciplinary courses framed around the UN's Sustainable Development Goals.

This term will be used in this study to refer to the initiative that gave rise to the provision of the online Higher Politics course.

Higher - one of the national school-leaving certificate exams and university entrance qualifications administered by the Scottish Qualifications Authority.

This term will be used in this study to refer to online Higher Politics course.

Individualised instruction – involves procedures that have to be adjusted to single students rather than the utilisation of procedures 'suitable' for them. This could include language simplification, attenuation of difficulties, respect of the individual pace of learning, encouragement, advice and guidance.

This term will be used in this study to refer to the design, construction and delivery of the online Higher Politics course.

Learning Management System (LMS) – a software application for the administration, documentation, tracking, reporting, automation and delivery of educational courses, training programs, or learning and development programmes.

This term will be used in this study to refer to the online platform used by Dollar Discovers.

Mastery Learning – this instructional design strategy maintains that all learners should be given ample time to develop a deep understanding of content and/or skills.

This term will be used in this study to refer to one of the intended goals of the instructional design of the online Higher Politics course.

Multimedia Instruction – communications involving words and pictures that are intended to foster learning.

This term will be used in this study to refer to the varied learning and teaching resources created for the online Higher Politics course.

NuVu - a full-time innovation school for middle and high school students. NuVu's pedagogy is based on the architectural Studio model and geared around multi-disciplinary, collaborative projects. NuVu's headquarters are found in Cambridge, Massachusetts.

This term will be used in this study to refer to the parent company responsible for the Learning Management System on which the online Higher Politics course is hosted.

Scottish Qualifications Authority (SQA) - The Scottish Qualifications Authority is the executive non-departmental public body of the Scottish Government responsible for accrediting educational awards.

This term will be used in this study to refer to the awarding body of the Higher Politics

qualification.

Synchronous learning- refers to all types of learning in which learner(s) and instructor(s) are in the same place, at the same time, in order for learning to take place. This includes in-person classes, live online meetings when the whole class or smaller groups get together.

This term will be used in this study to refer to the virtual meetings between instructor and learner(s) on the online Higher Politics course.

Research questions

1. How does asynchronous online teaching and learning support the needs of learners studying SQA Higher Politics with *Dollar Discovers*?

2. Does the use of multimedia resources help to engage learners studying SQA Higher Politics with *Dollar Discovers*?

3. How does individualised instruction within the open source *Dollar Discovers* Learning Management System help to address the needs of the learners?

Literature Review

Asynchronous and Synchronous Learning

The design of online Higher Politics course is based on an asynchronous model with a limited amount of synchronous group and individual Zoom meetings. There has been much discussion and debate surrounding the efficacy of asynchronous online learning and teaching especially when compared to the synchronous online learning and teaching model. The Covid-19 pandemic has resulted in greater interest in what an effective online learning experience 'looks' and 'feels' like for the instructor and learner and as a result the body of research is growing.

Feelings of connection between instructor and learner, and learners and their peers are important considerations when constructing an effective online learning and teaching experience. Caitlin R. Tucker[13] has undertaken extensive research into the most effective strategies to create engagement among members of a learning community, both online and in-person. Tucker's research identifies that the online learning experience should be centred around 'The Community of Inquiry' framework which is composed of three interconnected presences (Source C below offers further development of the Framework):

1. *The social presence:* This refers to the learners' ability to assert their social and emotional selves, view their classmates as real people, and communicate openly online.

2. *The teaching presence:* This encompasses the design, instruction, and facilitation of learning in the course.

3. *The cognitive presence:* This relates to the learners' ability to construct meaning through a process of inquiry, dialogue, and reflection.

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[13] Caitlin R. Tucker, Developing a Community of Inquiry in Your Blended Classroom Published 23 July 2019 https://catlintucker.com/2019/07/community-of-inquiry/ (Last Accessed 19.04.2021)

Community of Inquiry

Social Presence	**What?** The ability to assert one's beliefs, feelings, and personality to establish relationships, trust, and open communication on and offline. **How?** Build community with activities and icebreakers, encourage respectful discussion on and offline, and give learners time to work collaboratively on shared tasks.
Cognitive Presence	**What?** The ability to construct meaning through a combination of individual experience and reflection then social negotiation and collaborative constructivism. **How?** Teach students how to work through the practical inquiry model—triggering event, exploration, integration, and resolution.
Teaching Presence	**What?** The ability to design, facilitate, and direct the social and cognitive presence to achieve high-quality learning outcomes for students. **How?** Design online and offline learning to engage students in collaborative constructivism. Facilitate relationship building and provide individualized support. Guide the learning happening both on and offline.

Source C: The Community of Inquiry Framework by Caitlin R. Tucker (2019)

Tucker's work builds upon the research of Garrison, Anderson, & Archer and their 'Col Framework'[14] illustrated in Source D below:

Source D: The Community of Inquiry Model by Garrison, Anderson & Archer (2000)

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[14]D. R. Garrison, T. Anderson & W. Archer, Critical inquiry in a text-based environment: Computer conferencing in higher education model. *The Internet and Higher Education*, 2(2-3), pp. 87-105.

Garrison, Anderson and Archer point to the importance of a process of creating a deep and meaningful (collaborative-constructivist) learning experience through the development of the three interdependent elements – social, cognitive and teaching presence.[15] It could be argued that understanding the importance of the three interconnected presences assists the instructor to prioritise the creation of a community to help humanise the online educational experience. This is perhaps most significant in relation to online courses where learners are unknown to each other.

Han[16] carried out research that identified that synchronous video conferencing at higher education level impacted the learners' feeling of association with their instructor. Han found that in courses that included teacher videos, as compared to the courses that did not utilise videos, students could feel less distanced from the instructor. This is significant because while this research focuses on higher education (as does much of the current available research into e-learning experiences), it does reveal detail about the importance of the nature of connectedness. This echoes the research of Garrison, Anderson & Archer (2000) and Caitlin R. Tucker (2019) and it could be argued that both synchronous and asynchronous online learning experiences have the potential to develop both social and instructor presence and therefore reduce feelings of isolation and increase levels of engagement.

During the third UK national lockdown, the UK Government published a report[17] about what was working well in remote education. Issues highlighted in said report revealed a number of issues relating to accessibility where learners were required to attend live online lessons but had poor quality internet connection or were sharing devices with siblings at home, engagement declined and

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[15] *Ibid*.
[16] Heeyoung Han, Do nonverbal emotional cues matter? Effects of video casting in synchronous virtual classrooms. *American Journal of Distance Education*, 27(4), pp. 253–264.
[17] Ofsted, What's working well in remote education, Published 11 January 2021. (Last accessed 30.04.2021)

lessons were missed. The report also identified that some schools had delivered all of their lessons synchronously and these schools had claimed this approach had maintained consistency and routine for learners and teachers. In addition, the Ofsted report found that where schools had used predominately asynchronous lessons, this approach had reduced pressures on families and parents (for example, where parents may also be working from home and unable to support their dependants, or multiple children sharing one device). Asynchronous learning and teaching allowed for self-direction and pacing which helped those learners already skilled in self-regulation. Where teachers feared students may not be able to stay engaged for the duration of a full-length live lesson they moved to pre-recorded shorter online lessons or presentations. These schools had some live systems available to provide feedback for pupils, such as through tutorial sessions.[18] The UK Government Education Minister, Gavin Williamson, claimed in January 2021 that synchronous teaching was expected and desirable[19], but a report that contradicted the previous advice was published by the UK Government a few weeks later stating,

live lessons are not always more effective than asynchronous approaches[20]

This confused government messaging proved to complicate the emergency delivery of online learning for millions of learners in the UK.

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[18] *Ibid.*

[19] Williamson said the government wanted to encourage "as much live teaching as possible", claiming it has been "shown to be the best way in terms of delivering teaching". https://www.tes.com/news/coronavirus-online-learning-schools-live-lessons-are-best-williamson-contradicts-ofsted (Last Accessed 18.04.2021)
This conflicts with Ofsted guidance published which described the claim that live lessons were always the "best way" to deliver remote education as one of several "unhelpful myths" on the issue.

[20] Ofsted, What's working well in remote education, Published 11 January 2021. (Last accessed 30.04.2021)

The Education Endowment Fund reported in March 2021 that irrespective of the mode of delivery (synchronous/asynchronous/blended versions of synchronous and asynchronous), the *quality of teaching* was more important as was ensuring access to technology, especially for disadvantaged pupils.[21] An updated report was published in April 2021 which identified that high quality teaching would include clear expectations, scaffolding and feedback. One of the key findings of the report stated,

'There was no clear difference between teaching in real time ("synchronous teaching") and alternatives ("asynchronous teaching"). For example, teachers might explain a new idea live or in a pre-recorded video. But what matters most is whether the explanation builds clearly on pupils' prior learning or how pupils' understanding is subsequently assessed.'[22]

It is interesting to consider the impact on the social presence within the Community of Inquiry framework among stakeholders when learning and teaching in asynchronous and synchronous online contexts. Bernard et al[23] examined different types of interaction within distance learning, comparing student-student, student-teacher, and student-content, interaction. The evidence identified that learner-learner interaction had the largest impact on student outcomes. This finding

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[21] Education Endowment Foundation Remote Learning, Rapid Evidence Assessment, Published 21th April 2020. (London: Education Endowment Foundation). This research was funded by The EdTech Hub – as part of the partnership between the EdTech Hub and the Education Endowment Foundation. It has been published as a global public good – to support the global response to the education impacts of COVID-19. The EdTech Hub is a Global Initiative led by the Department for International Development (DFID), The World Bank and The Gates. Foundation.https://educationendowmentfoundation.org.uk/covid-19-resources/best-evidence-on-supporting-students-to-learn-remotely/ (Last Accessed 18.04.2021)

[22] Education Endowment Foundation Remote Learning, Rapid Evidence Assessment, Published 21th April 2020. (London: Education Endowment Foundation). https://educationendowmentfoundation.org.uk/covid-19-resources/best-evidence-on-supporting-students-to-learn-remotely/ (Last Accessed 18.04.2021)
[23] Robert M Bernard, Philip C Abrami, Eugene Borokhovski, C Anne Wade, Rana M Tamim, Michael A Surkes, and Edward Clement Bethel. A Meta-Analysis of Three Types of Interaction Treatments in Distance Education. Review of Educational Research, 2009 79(3), pp.1243-1289.

is supported by the review by Means et al[24] , which found a positive impact for interaction with peers, whether synchronous or asynchronous. This is significant as it highlights that social presence and teacher presence is key to effective online learning and serves to support learners in their sense of connectedness to the learning environment and learning materials.

It could be argued that asynchronous learning is more learner-centred because it removes the constraint of a specific time mandated for learning and instruction. Asynchronous learning and instruction could be said to offer the greatest flexibility for learner and teacher alike. *eLearning Industry* reported in 2015[25] that the learner could feel a sense of empowerment as a result of the convenience this mode of delivery affords them. Asynchronous learning is respectful of the differing learning paces of learners and offers an element of choice in some scenarios. The learner has the luxury of time to consider their responses rather than be placed 'on the spot' in a live context. The time and space offered by asynchronous learning could support those learners that feel anxious in classroom settings and become withdrawn and stop participating because of the perceived social obstacles that they may feel they face.

This reveals that while asynchronous online teaching and learning may provide the flexibility that is desirable for some learners and their families as a result of practical scheduling issues, the absence of real time interaction can hinder opportunities for meaningful collaboration. It is certainly the case that asynchronous learning requires self-motivation and a strong work ethic[26]. It is pertinent that effective online learning and teaching offers a blended approach of asynchronous and synchronous elements to ensure engagement and the development of social presence, teaching presence and

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[24] Barbara Means, Yukie Toyama, Robert Murphy, and Marianne Baki. The Effectiveness of Online and Blended Learning: A Meta-Analysis of the Empirical Literature. *Teachers College Record*, 115(3), 2013 pp 23.
[25] Christopher Pappas, eLearning Industry, Asynchronous Learning Advantages and Disadvantages in Corporate Training, Published 19 December 2015. (Last Accessed 18.04.2021)
[26] *Ibid.*

cognitive presence[27]. This approach will go far to allow learners to feel supported, engaged and connected to their peers and their instructor.

Multimedia Resources

Mayer's research into the principles of the cognitive theory of multimedia learning is essential to consider when trying to understand how humans process information and ultimately learn and achieve. Mayer's theory makes three assumptions:

1. The dual-channel assumption

2. The limited-capacity assumption

3. The active-processing assumption

According to Mayer, the dual-channel assumption reveals that

'humans possess separate channels for processing visual and auditory information'[28]

These channels include the visual-pictorial channel (this processes images seen through the eyes) and the auditory-verbal channel (this processes the spoken word).[29]

The limited-capacity assumption revolves around the premise that humans have a maximum cognitive load that means that they can only process a certain amount of information at any given

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[27] Y Zhao, J Lei, B Yan, C Lai, and H S. Tan (2005). What makes the difference? A practical analysis of research on the effectiveness of distance education. *Teachers College Record*, 107(8), August 2005 pp.1836- 1884. Zhao et al. found evidence that a combination of asynchronous and synchronous learning was most beneficial to outcomes.

[28] R. E. Mayer Multimedia learning (2nd ed.), 2009 (Cambridge, England: Cambridge University Press), p.63

[29] *Ibid*

time. Mayer points to this limit being of perhaps five to seven 'chunks' of information that can be dealt with and processed at once for some people.[30]

The active-processing assumption highlights the notion that humans do not learn through osmosis, i.e. by passively absorbing information. In order to learn, humans need to be active. He points to the acts of selecting, organising and integrating prior knowledge with new knowledge to create new or deeper meaning. Mayer's constructivist interpretation of learning suggests that multimedia tools for learning and teaching are not simply delivery systems but are instead, cognitive aids for the construction of knowledge.[31]

Mayer's 15 Principles for Effective Multimedia Design are illustrated in Source E. The learner's construction of their mental model relies upon the instructor omitting what Mayer describes as 'seductive details' and instead focussing on simplicity prioritising the support of the learning goals[32]. Reducing overwhelm and overburdening the learner's cognitive load is undesirable according to Mayer.[33] When learners are only required to connect their prior learning with new learning they have the best chance of mastery learning. This reflects the findings shown in Keller's Personalised System of Instruction[34]. A common theme throughout the principles of multimedia learning revolves around the idea of simultaneous presentation of text and images so that the learner is not forced to identify the meaning on their own[35]. Pacing and segmenting information is also key. Mayer points to the idea that learners learn best when they have control over the pace of the lesson[36].Being able to pause and replay video content or click through to the next slide or back to the previous slide

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[30] *Ibid*, p.67
[31] *Ibid,* p.14
[32] *Ibid*, p.97
[33] *Ibid*, p.89
[34] Fred S. Keller, Good-Bye Teacher…. *Journal of Applied Behavior Analysis* 1968 1:78–89
[35] R. E. Mayer Multimedia learning (2nd ed.), 2009 (Cambridge, England: Cambridge University Press), p.135
[36] *Ibid*, p. 175.

creates such opportunities. Mayer also highlights the benefits of the pre-training where instructors define key concepts before explaining them in greater detail. This helps learners secure a degree of prior knowledge onto which they can 'pin' the learning in the lessons[37]. In addition, narrated presentations with graphics are best for the learner, according to Mayer, when text is used sparingly. Using text should be used when listing key steps, providing directions or references or presenting information to non-native speakers[38]

When using images, Mayer contends that they should clarify meaning rather than just offer decoration[39]. Conversational style is preferable for learners according to Mayer who points to the importance of cultivating a social response in the learner[40]. This notion is reflected in the aforementioned Community of Inquiry framework[41]. The use of the instructor's face in an asynchronous video may be beneficial when trying to establish relationships and teacher presence as seen in the aforementioned Community of Inquiry Framework, however Mayer advises that the instructor's face should only be incorporated into such multimedia contexts where there are no words or pictures[42].

Mayer contends that the

> '…design principles reviewed in this book may help low-experience learners but not help high-experience learners'[43]

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[37] *Ibid*, p.189.
[38] *Ibid*, p.204.
[39] *Ibid*, p.223.
[40] *Ibid*, p.247.
[41] Caitlin R. Tucker, Developing a Community of Inquiry in Your Blended Classroom Published 23 July 2019 https://catlintucker.com/2019/07/community-of-inquiry/ (Last Accessed 19.04.2021)
[42] R. E. Mayer Multimedia learning (2nd ed.), 2009 (Cambridge, England: Cambridge University Press), p.242.
[43] *Ibid*, pp. 271-272.

Multimedia Design Principles	Description
Coherence	No irrelevant or extraneous words, pictures, sounds.
Signalling	Provides cues such as highlighting, circles, arrows, etc. to signal essential words or organisation of concepts.
Temporal Contiguity	Present corresponding narration and animation simultaneously not successively.
Redundancy	Avoid redundancies (images + narration + text). Go for (images + narration or images + text) to reduce extraneous processing.
Spatial Contiguity	Place corresponding words and graphics, as well as feedback and responses, close together (i.e., not on opposite sides of the screen).
Segmenting	Present learning materials in learner-paced segments that are broken down into smaller chunks.
Pre-training	Provide explanations of key concepts in a lesson for beginners.
Modality	Consider types of words and images that pair well (e.g., text and graph vs. on-screen text and video). Students learn better with narration and graphics than with on-screen text and animation.
Multimedia	Words and pictures are more effective than words alone.
Image	The speaker's image on-screen does not enhance learning.
Voice	Superimposed voice presentation enhances learning.
Personalisation	Use a conversational/personal tone (first person: "We are going to…" vs. "Today's lesson is…"
Embodiment	Deep learning can be achieved through multimedia presentations when an onscreen instructor displays high embodiment rather than low embodiment.
Immersion	3D immersive virtual reality is not necessarily a better learning experience than a corresponding 2D desktop presentation.
Generative Activity	Guide learners in carrying our generative learning activities during learning.

Source E: Mayer's Principles for Effective Multimedia Design[44]

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[44] R. E. Mayer Multimedia learning (3rd ed.), 2020 (Cambridge, England: Cambridge University Press).

Several reviews have explored different ways of presenting information and teaching to maximise the learning experience. Means et al [45] found no evidence that adding multimedia to online instruction had any impact on learning outcomes, concluding that the teaching was more important than the medium itself. There was, however, some evidence that supporting learners to reflect on their own learning had a positive impact. This suggests that effective online learning experiences using multimedia resources, whether synchronous or asynchronous, have the ability to 'bring to life' materials, ideas and concepts presented by high quality, personable instructors . Mayer contends that this is more pertinent to those learners with limited experience and where the instructor understands the learners' prior knowledge. He argues that,

'prior knowledge is the single most important individual difference dimension in instructional design. If you could know just one thing about a learner, you would want to know the learner's prior knowledge in the domain'[46]

The literature selected for this review is consistent in pointing to high quality teaching as the most significant variable of the effectiveness of online learning. Understanding how humans learn is a fundamental aspect of all teaching contexts. The Universal Design for Learning (UDL)[47] framework offers a structure within which instructors can design engaging and personalised learning experiences for all learners. Created by non-profit education research and development organisation, CAST[48] (Center for Applied Special Technology), UDL is now used globally with the intention of making learning more inclusive. The premise that underpins this framework is that

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[45] Barbara Means, Yukie Toyama, Robert Murphy, and Marianne Baki, The Effectiveness of Online and Blended Learning: A Meta-Analysis of the Empirical Literature. *Teachers College Record*, 2013 115(3), pp 23.
[46] R. E. Mayer Multimedia learning (2nd ed.), 2009 (Cambridge, England: Cambridge University Press), p.193.
[47] Center for Applied Special Technology, 'The UDL Guidelines'. (Last accessed 30.03.2021)
[48] Center for Applied Special Technology, 'About CAST'. (Last accessed 30.03.2021)

educatiors need to identify and put into action strategies to improve and optimise teaching and learning for all people based on scientific insights into how humans learn.

The instructor is encouraged to think carefully and creatively about how they will engage each student, how they can present the information to be processed in multiple ways and then provide multiple ways of expression for their students. The ultimate goal for learning and instruction is expert learners that are purposeful and motivated, resourceful and knowledgeable, strategic and goal-orientated. This supports the stance that high quality instruction will engage the learner and result in effective learning and enjoyment. This could be argued to be relevant to instruction in online and in-person contexts. Source F outlines the UDL Guidelines which have been informed by feedback and research from the field. CAST also state that these guidelines offer a set of suggestions that can be applied to any discipline or domain to ensure that all learners can access and participate in meaningful, challenging learning opportunities:
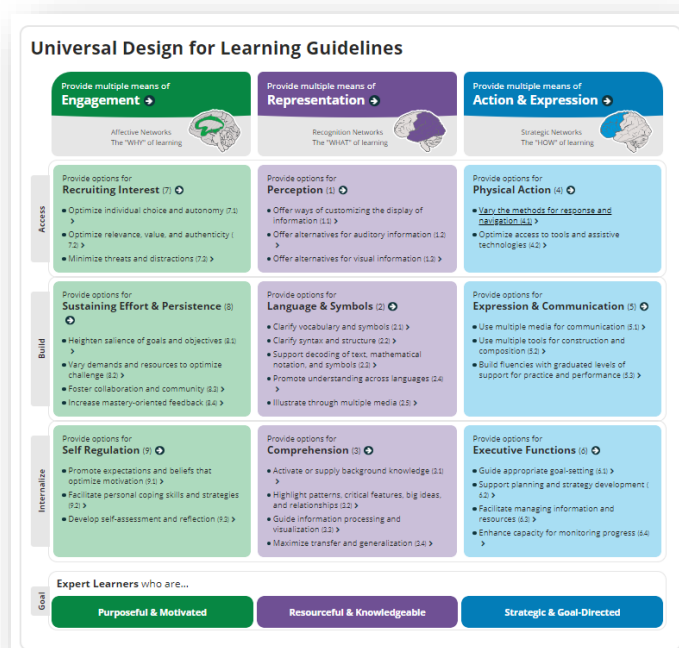
Source F: Universal Design for Learning Guidelines

The strategies that are central to UDL all revolve around the premise of offering multiple representations of learning materials including multimedia resources. This approach increases opportunities for pupil choice, provides flexible formats for all types of learners, uses prior knowledge to scaffold new knowledge and skill acquisition and practice, provide alternatives in the requirements for rate and timing so as not to overwhelm learners and so they can set the pace. This reflects Mayer's 15 Principles for Effective Multimedia Design[49] which was published in 2020, offering an additional three principles to those published by Mayer in 2009. and the importance of segmenting for effective learning mastery. Mayer also points to 'pre-training' in order to teach key concepts in advance of a lesson and this notion can also be found in the UDL guidelines which encourage the pre-teaching of vocabulary and symbols, especially in ways that promote connection to the learners' experience and prior knowledge.

The UDL Guidelines are not prescriptive but do reveal a notion of what effective learning and instruction might 'look' and 'feel' like. This is significant as it feeds into the importance of high-quality teaching for effective learning. It could be argued that when the UDL guidelines are applied they can help to reduce barriers and maximise learning opportunities for all learners. When instructors are designing online courses for learners in any field of study, the UDL guidelines have the potential to support learners and raise engagement and attainment. The justification of this view can be seen in the impact of the suggested supportive, specific and timely feedback to help guide learners in any revisions and to offer positive encouragement and raise self-esteem and confidence in the learners.

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[49] R. E. Mayer Multimedia learning (3rd ed.), 2020 (Cambridge, England: Cambridge University Press).

UDL also advises that information shared with learners should be displayed in a flexible format so that the perceptual features, such as text size and font or the contrast between background and text or image, can be varied. This strategy can provide self-directed support for the learner who can feel empowered by the ability to adjust the learning materials to better suit their needs or preferences. It could be argued that when a learner feels more in control of their learning experience, they are more likely to feel engaged and this could lead to improved attainment.[50] Providing models or examples of the process and product of goal-setting are encouraged by UDL to help learners self-regulate, which is an essential component of online learning where learners are required to be more independent as learners than a classroom-only learner. Providing differentiated models to emulate (i.e. models that demonstrate the same outcomes but use differing approaches, strategies, skills, etc.) and differentiated mentors (i.e., teachers/tutors who use different approaches to motivate, guide, feedback or inform) are also driving principles of UDL which its research-informed creators have highlighted as effective strategies for learning and instruction in all contexts[51].

Extensive research has identified that students learn more when they are actively engaged in the classroom than they do in a passive lecture environment.[52] Online learning has the potential to offer both scenarios. Bonwell and Eison defined strategies that promote active learning as,

*'instructional activities involving students in doing things and thinking about what they are doing'*[53]

[50] Teachthought.com, 10 Ways to Give Students More Control of Their Education, (Published 24th February 2019) (Last Accessed: 20.04.2021)

[51] Edutopia, Golden Rules for Engaging Students in Learning Activities (Last Accessed: 20.04.2021)

[52] L. Deslauriers, C. Wieman, Learning and retention of quantum concepts with different teaching methods. *Phys. Rev. ST Phys. Educ*. 7, 010101 (2011). Schunk, D. H., & Mullen, C. A. (2012). Self-Efficacy as an engaged learner in S. Christenson, A. Reschly, & C. Wylie (Eds.), Handbook of research on student engagement (pp. 219-235). Boston, MA: Springer US. J. Reeve, H. Jang, D. Carrell, S. Jeon, & J Barch. (2004). Enhancing students' engagement by increasing teachers' autonomy support. *Motivation and Emotion*, 28(2), 147-169. J. A. Fredricks (2014). Eight Myths of Student Disengagement: Creating Classrooms of Deep Learning. Los Angeles: Corwin. E. M. Anderman, & H. Patrick (2012). Achievement goal theory, conceptualization of ability/intelligence, and classroom climate in S. Christenson, A. Reschly, & C. Wylie (Eds.), Handbook of Research on Student Engagement (pp. 173-191). New York, NY: Springer.

[53] C. C. Bonwell and J.A. Eison (1991). Active learning: creating excitement in the classroom ASH#-ERIC *Higher Education Report* No. 1.

In this respect, active learning requires learners to participate in the construction of their knowledge and understanding. This higher order thinking demands that learners think about their learning, or involve themselves in metacognition. This constructivist learning theory identifies that mastery learning will take place when connections are made between prior and new knowledge so that learners can reconstruct their mental models to incorporate their new knowledge and understanding. Angelo and Cross[54] point to one practical strategy to promote active learning in which learners are asked a question that requires them to reflect on their learning or to engage in critical thinking. Learners are asked to write for one minute and then share their responses to stimulate discussion with the intention being that new connections about the knowledge are formed. Bloom's Taxonomy[55] offers a framework to promote active learning using student-generated test questions. Groups of leaners could be asked to create test questions to correspond to the different levels of the taxonomy as illustrated in Source G below:
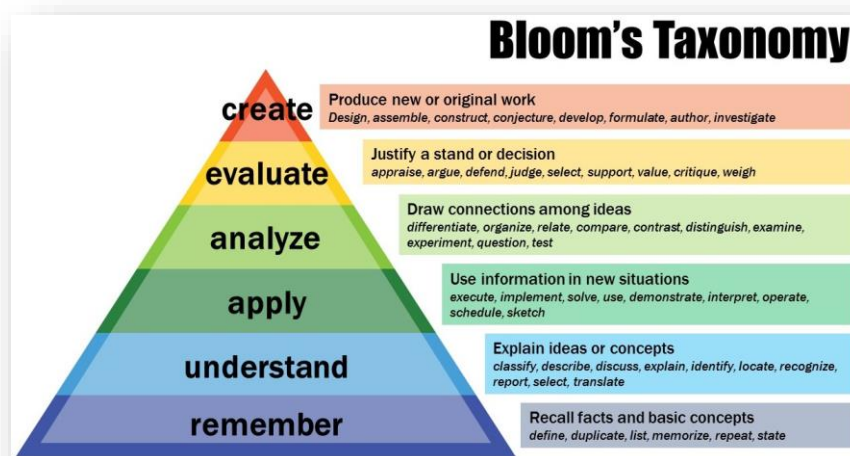
Source G: Bloom's Taxonomy. Graphic released under a Creative Commons Attribution licence.

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[54] T.A. Angelo and K.P. Cross (1993). Classroom assessment techniques: a handbook for college teachers. San Francisco: Jossey-Bass

[55] P. Armstrong (2010). Bloom's Taxonomy. Vanderbilt University Center for Teaching. (Last Accessed 20.04.2021)

Individualised Instruction

Individualised instruction is the term used to describe a method of teaching that tailors content, mode of instruction and pace to the abilities and interests of the learner. Based on Swiss biologist and psychologist Jean Piaget's cognitive theory[56], individualised instruction promoted greater instructor consideration for the specific traits of individual learners. Adaptations made to individualise instruction is hailed by some researchers as far superior to classroom-style group discussion because when instructors vary their style of instruction to best meet the needs of the learner, the learning and knowledge acquisition can be significant.[57]

There are three fundamental variables of individualised instruction: pace (the amount of time given to a student to learn the content), method (the way that the instruction is structured and managed) and content (the material to be learned). When an instructor designs learning experiences for one seemingly homogenous group based on age, the result can be that not all leaners will engage or be able to access and process the materials. Conversely, when the instructor offers a more flexible learning experience according to the three fundamental variables, specific learner characteristics can be addressed and needs met.

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[56] Piaget believed that humans create their own understanding of the world. In theological terms, he was a psychological constructivist, believing that learning is caused by the blend of two processes: assimilation and accommodation. S. Kurt "Jean Piaget and His Theory & Stages of Cognitive Development," in *Educational Technology*, August 8, 2020. Retrieved from https://educationaltechnology.net/jean-piaget-and-his-theory-stages-of-cognitive-development/ (Last Accessed 01.05.2021)

[57] Neil J. Smelser, Paul B. Baltes (eds) Instructional Technology: Cognitive Science Perspectives, *International Encyclopedia of the Social & Behavioral Sciences*, Pergamon, 2001, pp. 7573-7577

Keller's Personalised System of Instruction[58] is based on ten accepted educational principles that promote self-contained and self-paced learning:

1. Active responding

2. Positive conditions and consequences

3. Specification of objectives

4. Organisation of material

5. Mastery before advancement

6. Evaluation/objectives congruence

7. Frequent evaluation

8. Immediate feedback

9. Self-pacing

10. Personalisation

Keller's Plan has been criticised for issues relating to decreased human interaction however proponents of the System have pointed to higher success rates of individualised learning when the course content is standardised, stable and resources are scarce.[59]

Postlethwait[60] developed another method of individualised instruction in the audio tutorial. His research was driven by a desire to identify an effective method of teaching botany to a large number of college students and to assist those with limited knowledge of the subject. Students were given

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[58]Fred S. Keller. "*Good-Bye Teacher….* " *Journal of Applied Behavior Analysis* 1968 1:78–89

[59] StateUniversity.com Education Encyclopedia,*: Individualized Instruction - Pace, Method, Content, Examples of Individualized Instruction, Final Issues* - Learning, Students, Computer, and Instructional - StateUniversity.com (Last Accessed 01.05.2021)
[60]Samuel N. Postlethwait, Joseph D. Novak; and Hallard Thomas Murray 1972. The Audio-Tutorial Approach to Learning. Minneapolis, MN: Burgess.

access to a recorded presentation that directed their activities in a step-by-step manner. The benefits of such an approach include the control that the learner has over the pace of the delivery of the content and the ability to replay any aspect of the recorded presentation. Postlethwait found that learners' responsibility for their own learning increased and the mass audio recording allowed a greater number of learners to access the course without the need for an increased amount of physical teaching and learning space and additional instructors. This research has been criticised for assuming that all learners would be self-motivated and the fact that the instructor leads all of the content omitting any requirement for discussion. In this sense the instruction is simply a delivery mechanism and does not demand active learning.

eLearning has arguably made easier individualised instruction. Not only does online instruction have a far greater reach than in-person classroom instruction, it also offers flexibility (if there are asynchronous aspects to the course) and convenience for the learner. The individual characteristics of the learner can be considered in the instructional design process. What would limit the instructor's ability to incorporate learning modes and specific cognitive prerequisites would be a lack or absence of information about each learner ahead of the initial design phase[61]. Pace is arguably easier for the instructor to consider as videos can be paused, learners can click onto the next slide of a presentation when they are ready and audio can be slowed down or sped up according to the individual need. Using the aforementioned UDL principles, instructors could pre-empt the challenge of a lack of knowledge about learners' needs and design multiple iterations of the same content. There clearly is an associated time and skill challenge for instructors when considering this approach, however thinking ahead to ways in which the didactic transmission modality could be diversified within specified time constraints, skill levels, creative, budgetary and staffing considerations, would foster a culture of individualised instruction.

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[61] This reflects the views of Mayer. See Footnote 46.

The Education Endowment Foundation[62] argues that individualised instruction has enjoyed greater success when digital technologies are employed. The immediate feedback education gamification models offer is a clear example of this. Arguably individualised instruction serves to democratise education in a way that traditional didactic classroom teaching cannot, and yet there are criticisms of individualised instruction serving best those learners that are already skilled in managing their own learning[63]. It could be the case that individualised instruction may have the greatest impact when instructor guidelines about tasks are clear, feedback is immediate and personal and clear expectations in terms of time management and tasks to complete by certain dates are proffered. Individualised instruction is a conduit to the democratisation of education and contributes to the reduction of educational inequalities or to bring about equality in opportunities.

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[62] The Education Endowment Foundation, https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/individualised-instruction/ (Last accessed 22.04.2021)

Methodologies

This study conducted a range of research in order to address the three research questions:

1. How does asynchronous online teaching and learning support the needs of learners studying SQA Higher Politics with *Dollar Discovers*?

2. Does the use of multimedia resources help to engage learners studying SQA Higher Politics with *Dollar Discovers*?

3. How does individualised instruction within the open source *Dollar Discovers* Learning Management System help to address the needs of the learners?

In the main, the research data includes a case study of the online Higher Politics course mentioned in the Context chapter. Verschuren[64] reports a range of authors who argue that a distinguishing feature of case study research is 'holism' rather than 'reductionism'. While this case study will not examine the entirety of the subject, it will address the relevant areas of interest, namely the multimedia resources and the mode of instruction within the Higher Politics course hosted by Dollar Academy through its *Dollar Discovers* online education programme.

The impact of asynchronous online teaching and learning in terms of supporting the needs of learners studying SQA Higher Politics with *Dollar Discovers*.

A questionnaire was distributed online via Microsoft Forms to all learners enrolled in the online Higher Politics course. The primary objective of the questionnaire was to understand the learners' experience of studying remotely an academic qualification. The secondary objective was to identify subsidiary topics that related to the central purpose of the questionnaire. This included the mode of delivery and

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[64] P.J.M Verschuren, Case Study as a research strategy: Some ambiguities and opportunities *International Journal of Research Methodologies* (2003), 6 (2), p.124.

ease of accessibility. The third objective involved formulating specific information requirements relating to each of the aforementioned issues. In this respect, the focus was about the organisation of course content and resources provided. The data gathered identified responses that can be found in Appendices A and M.

The data findings from Appendix A link to the three fundamental variables of individualised instruction: pace (the amount of time given to a student to learn the content), method (the way that the instruction is structured and managed) and content (the material to be learned). The content of the course included a varied presentation of information ranging from pdf notes, scanned textbook pages, video presentations, quizzes and worksheets and these manifestations of flexible learning allowed specific learner characteristics to be addressed and needs met.

The data gleaned from the questionnaire shown in Appendix A highlights a link with the literature relating to multimedia and individualised instruction. Keller's Personalised System of Instruction[65] points to self-contained and self-paced learning along with active responding and immediate feedback. In addition, the fact the multimedia content was produced using Mayer's Principles for Effective Multimedia Design[66] suggests that this had a positive impact on the learning experience.

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[65] Fred S. Keller. "*Good-Bye Teacher….* " *Journal of Applied Behavior Analysis* 1968 1:78–89

[66] R. E. Mayer Multimedia learning (2nd ed.), 2009 (Cambridge, England: Cambridge University Press)

The impact of the use of multimedia resources to help engage learners studying SQA Higher Politics with *Dollar Discovers*.

Multimedia resources including original video content, YouTube videos made by third parties, editable digital worksheets, pdf book chapters and images are a common feature throughout the LMS that hosts the online Higher Politics course. The full online Higher Politics course can be accessed here. An example of one such resource can be found via this link.

Appendix C shows a screen capture image from the LMS and is an example of Universal Design for Learning and therefore links to the literature on Individualised Instruction. The screen capture image shows multimedia content in the form of an original video along with text instructions and an editable worksheet from which learners could take notes as they watched the aforementioned video content. An introductory video welcomes learner to the LMS and outlines the course content and how to navigate the online Higher Politics course. This video can be viewed here.

The screen capture image shown in Appendix D identifies the establishment of teacher presence which links to the Community of Inquiry literature and the establishment of personalisation as per the guidelines of Mayer and his Principles of Multimedia Learning[67].

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[67] R. E. Mayer Multimedia learning (2nd ed.), 2009 (Cambridge, England: Cambridge University Press)

The use of individualised instruction within the open source *Dollar Discovers* Learning

Management System help to address the needs of the learners.

The data shown in Appendices O-J (i-iii) identifies the use of feedback given to learners via the LMS. This links to the Individualised Instruction literature which highlights the value of frequent evaluation, immediate feedback and personalisation.

There were requests from some learners for booklets to include course notes. Given the remote nature of the delivery of the Higher Politics course, it was decided by the course instructor to react and create an online e-textbook as a supplementary multimedia resource. This e-textbook was accessible via mobile and desktop computers; the pages could be flipped online on any device and video content was embedded. The online e-textbook could be downloaded and printed should learners wish a physical copy. This e-textbook is shown in Appendix F and available to access via this link.

Given the cancellation of national examinations which would normally take place at the end of this online course, academic grades were not awarded. It is the case, however that all learners that will be awarded an academic grade by August 2021. This grade will be derived from a holistic teacher judgement of academic work and timed assessments completed from August 2020-June 2021. The green-blocked cells shown in Appendices G (i) and (ii) indicate work to be submitted. The learners' education experience was disrupted by the expectation that national examinations would be cancelled following a Scottish Government announcement in December 2020 that examinations scheduled for May-June 2021 were cancelled[68]. As details from the SQA emerged in mid-2021, it

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[68] BBC News, Higher exams to be cancelled for Scottish pupils, 8 December 2020 (Last Accessed 24.04.2021)

became clear to schools and colleges in Scotland that teacher-created and assessed timed

assessments would be required from which grades would be derived[69]. The grades at the time of

writing appear in Appendix G (i) and this is contrasted with the volume of assessed work and

academic attainment of learners with access to the online course and in-person instruction in a

classroom setting. The latter data is shown in Appendix G (iI).

The findings shown in Appendix H (i-iii) and P(i-iii) highlight the strategy used by the online instructor

(Hannah Young) to ascertain the extent of learners' prior knowledge and understanding of the

course content. This links to the literature about UDL and Keller's Personalised System of Instruction

(specifically: active responding, positive conditions and experiences, mastery before advancement,

frequent evaluation, immediate feedback and personalisation.) Furthermore, for each of the nine

units of study within the online Higher Politics course a corresponding 'Teaching and Learning Plan'

was provided to all learners to ensure that expectations were clear and in line with Keller's

Personalised System of Instruction (specifically: specification of objectives). An example of this is

shown in Appendix K.

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[69] BBC News, Covid in Scotland: Scottish pupils sitting 'exams by another name', BBC News 1 April 2021 (Last Accessed 24.04.2021)

Data analysis

The data gleaned from the case study of the online Higher Politics course offered high quality and relevant qualitative data. The case study approach offered opportunities to identify patterns of responses through questionnaires and an overall study of a case in context using the *Dollar Discovers* LMS platform. The case study approach offered rich descriptions and details about the efficacy of the mode of learning and teaching. Using the online Higher Politics course as a case study provided a unique example of real learners in real situations rather than presenting ideas as abstract theories or principles such as multimedia instruction, UDL and Individualised Instruction. In fact, the case study approach linked abstract theories and principles to a real-life situation. Case studies can offer the researcher a holistic overview of a situation in a way that numerical analysis is not always able. The context of the case study in question allows the reader and researcher to experience the human interactions and developments of relationships not easily conveyed by quantitative data.

The data can be analysed as revealing 'what it is like' for a 17/18 year old learner in Scotland studying remotely for a nationally-accredited academic qualification. That is not to say that case studies offer mere illustrations of a situation, in some respects the data works as a 'testbed'[70]. As a piece of research this study identifies successful approaches to online learning and some of the variables that led to its success: the asynchronous nature of the course content supplemented by synchronous one-to-one tutorials via Zoom, the development of social, teacher and cognitive presence, the multimedia resources and varied delivery of course material and the individualised instruction manifested in prompt and regular feedback, personalisation and the establishment of prior knowledge. A number of these variables are pointed to by learners as reasons for their engagement and attainment as shown in the evidence in Appendix A.

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[70] C. Robson, Real World Research (2nd edn.) 2002 (Oxford: Blackwell), p.182.

The learners made use of their individual student folders into which they uploaded their work (essays, responses to source, discussion and comprehension questions). Examples of instructor-learner interactions within such student folders can be seen in Appendices H (i)-(ii), I, and J (i-iii) This evidence highlights the interaction between the learner and the instructor showing clear and timely feedback, encouragement and praise. Learners were able to reflect on their assessed work and make any improvements so that they could ready themselves for the examination. There were occasions when learners would request a follow-up Zoom tutorial for further clarity on an aspect of their essay writing. These Zoom tutorials would last no longer than 30 minutes and followed up with an email with tips and model answers that were discussed in the tutorial. This is shown in Appendix O. It is the case that with every interaction between the instructor and learner the learner's confidence would increase and a sense of empowerment would ensue. Appendix R shows this impact and the resultant improvement in attainment for this particular learner. This reflects the findings of Means et al[71] who identified evidence from their research that supporting learners to reflect on their own learning had a positive impact.

It is the case that relationship building was integral to the success of the online Higher Politics course. Using the Community of Inquiry Framework[72], the instructor established engagement from the very beginning of the course starting with the welcome email (See Appendix S) to the first task that the learners were encouraged to undertake. This task was explained by the instructor in the welcome video and required the learners to imagine what policies they would introduce if they were a political leader. The task can be found here and a screen capture image can be viewed in Appendix N. What this highlights is that the learners were placed on a clear user experience (UX) journey from

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[71] Barbara Means, Yukie Toyama, Robert Murphy, and Marianne Baki, The Effectiveness of Online and Blended Learning: A Meta-Analysis of the Empirical Literature. *Teachers College Record*, 2013 115(3), pp 23.

[72] Caitlin R. Tucker, Developing a Community of Inquiry in Your Blended Classroom Published 23 July 2019 https://catlintucker.com/2019/07/community-of-inquiry/ (Last Accessed 19.04.2021)

the start and their first interactions on the platform showed them that they were part of a community. The instructor responded to the ideas of the learners in a timely manner and tried to stretch the learners' views by challenging their ideas. The learners were able to construct meaning through this process of dialogue, inquiry and reflection. They were also able to understand that there were other real people on the same learning journey as them that they could communicate with openly online. Email correspondence was also common between instructor and learner. An example of the way in which information was shared, how relationships and how support and encouragement were built is evidenced in Appendices E, P and U.

The fact that the online Higher Politics course requires a standardised approach to the main topics that must be taught (See Appendix T) arguably contributed to the success of the learning experience. As Keller notes, there are higher success rates of individualised learning when the course content is standardised, stable and resources are scarce[73]. Clear expectations and clearly defined content and skills allowed for a stable learning and teaching experience. Added to this is the delivery of all of the course content ahead of the commencement of the course. This meant that learners could feel confident accessing content at their own pace and considering that not all content had to be studied for the final examination, learners were afforded a degree of choice in relation to the topics that they studied. There was no requirement for the purchase of additional textbooks and as such the course was self-contained with no issue of resource scarcity. Where learner had requested printed booklets, these were printed and mailed without financial implications to the learner. The personalisation of learning materials can also be seen in relation to the e-textbook that was created. (See Appendix Q) This was created using computer software that improved accessibility for some learners. Following UDL principles the e-textbook provided offered display customisation options,

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[73] StateUniversity.com Education Encyclopaedia,*: Individualized Instruction - Pace, Method, Content, Examples of Individualized Instruction, Final Issues* - Learning, Students, Computer, and Instructional - StateUniversity.com (Last Accessed 01.05.2021)

alternative visualisation of the content (including embedded video content and hyperlinked definitions of subject specific terminology). Furthermore, the e-textbook provided options for physical actions as per UDL guidelines. This included the optimisation of access to tools and assistive technologies. (See Source F for a detailed breakdown of the UDL principles). This approach also considered the segmenting principle in Mayer's Principles of Multimedia Design where the learning materials in the e-Textbook were presented in learner-paced segments that were broken down into smaller chunks. (See Source E).

Such analysis can be made following the triangulation of research data. Triangulation is defined as the use of two or more methods of data collection in the study of some aspect of human behaviour. Triangulation assists the researcher in mapping out or explain more fully the complexity of human behaviour by studying it from more than one standpoint. The data gleaned from the questionnaires (See Appendices A and M) offers an insight into the learners' online learning experiences while the screen capture images show evidence of mode of delivery, course content and interactions between instructor and learners identifies the reality of the human experience. The data showing the grades achieved by the learners thus far despite disruptions caused by the Covid-19 pandemic indicates a high level of academic achievement by all learners studying Higher Politics online. (See Appendix G (i) and (ii)) When this data is compared to the same Higher Politics course that is been taught concurrently in person with online-*only* learners (See Appendix G (i)), it is evident that the online learning experience has not presented barriers to attainment. The fact that many of the online learners were unable to access the Higher Politics in their own physical schools but were able to undertake the course online via *Dollar Discovers* is a clear indication that academic attainment has been achieved that would not have occurred without the online provisions made by the *Dollar Discovers* online Higher Politics course. The difference can be seen in relation to the increased volume of work completed by the learners studying Higher Politics in person *and* online (through

two periods of lockdown in which physical school premises were closed to non-key worker learners).

There is a disparity in the amount of academic work that was submitted for assessment between the

two groups (those that studied the Higher Politics course *only* online and those that studied the

course online *and* in person with a teacher present. This latter group receive five hours of

compulsory timetabled instruction each week when learning online and during the time they spent

in a classroom in a physical school building). This may be an indication of reduced self-motivation to

continue producing academic work for assessment without the accountability to an in-person

instructor. This also may highlight the value of regular timetabled instruction to create an

expectation of participation and production of work. Accessibility issues may have also played a role

for some learners that struggled to access to digital technology, such as personal laptops, and had

WiFi connectivity issues meaning that they were unable to access the course. The data gathered

from the questionnaire shown in Appendix R did identify some issues relating to the accessibility of

the *Dollar Discovers* website. Further investigation with IT Departments in the two of the schools of

the learners identified that the *Dollar Discovers* website was blocked by the school's firewall and

emails from the course instructor were found in junk mail folders.

Conclusions

This study set out to establish the effectiveness of a unique online learning experience delivered during a pandemic. The case study research identified that the predominately asynchronous mode of delivery was conducive to meeting the needs and working within the individual time constraints of both the instructor and learners. The supplementary synchronous modes of connection were welcomed by all stakeholders and served to develop social and teacher presence along with being able to deliver key messages and provide clarity in what was a globally challenging period of time. The challenges arose as a result of school premises closing twice in one academic year as a result of the pandemic and the possible reduced accountability of the learner to the instructor on account of never having met in person. Where instruction was individualised, this had a positive impact on the learning experience. Where feedback was timely and provided specific next steps to improve, attainment and engagement increased. The multimedia course content offered a different learning experience to a regular classroom experience. This proved to be successful as learners could pace their own learning and replay any video content to help them with the mastery of the content and skills required for the Higher Politics qualification.

It is hoped that this research will add to the pre-existing, albeit limited body of research on the development of eLearning experiences for high school students. This research may serve to assist instructional designers in the initial design phases of building an online course in terms of mode of delivery, the design and range of multimedia content and the importance of an individualised approach to instruction to best meet the needs of all learners.

There are limitations to this study which need to be addressed. Two research methodologies were used to acquire data. These included questionnaires and a case study approach. The questionnaire

as a research method will be an intrusion into the life of the respondent. This intrusion can be seen in terms of a time intrusion, the sensitivity of the questions asked or the possible invasion of privacy. There are ethical concerns when asking individuals to participate in a questionnaire: they cannot be coerced and they should be aware that they have the right to withdraw at any stage or not complete the questionnaire.

Ethical considerations were made in the construction of the questionnaires used in this study as questions were constructed anonymously and with sensitivity. No coercion was applied. Open and closed questions were employed in the questionnaires. Closed questions were used when frequencies of responses were required. An example of such an approach relates to the researcher's need to understand whether participants in the online Higher Politics course had connectivity issues. As this study used a site-specific case study, qualitative, less structured word-based and open-ended questions were deemed appropriate. These open-ended questions proffered the researcher rich and personal data, which proved to be a valuable source of information. Respondents were able to write in their own terms and avoid the limitations of closed questions. The clear limitation with both the closed and open survey questions was the limited sample size of eight. That said, this accounted for 80% of learners on the online Higher Politics course that intended to be presented for the final course award. These were the learners most invested in the online course and therefore their responses were most significant to the researcher.

The case study approach offered the researcher a 'chain of evidence'[74]. This meant that every step of the LMS and learning experience could be tracked from the welcome video to the feedback on assessments at the end of each unit. Yin[75] makes the point that rival explanations of the findings

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[74] R.K. Yin, Case Study Research: Design and Methods. Beverly Hills, CA: Sage, pp.122-4.
[75] *Ibid,* p.133.

from a case study should be considered by the researcher along with an indication of why the explanation adopted is better than its rivals. With this in mind it would be pertinent for the researcher to consider alternative reasons for the efficacy of the online Higher Politics course beyond the variables of the predominant asynchronistic mode of delivery, multimedia resources and individualised instruction. Alternative explanations for the engagement and attainment of the eight learners could relate to their innate interest in Politics, their need to gain an additional qualification to gain access to university or other further study, the commitment and inherent self-motivation of the learners, or even perhaps parental pressure to succeed. In this respect, it could be argued that such learners may have been engaged and would have achieved the same level of attainment without intervention from the *Dollar Discovers* initiative. That said, *Dollar Discovers* is the first 100% online delivery of a complete SQA national qualification by a school and therefore without comparison.

According to Macpherson et al[76], the practice of case study research should be collaborative between participants and researcher in order to address contextuality. In addition, Macpherson et al[77] point to the importance of authenticity (fitness for purpose) and growth (ensuring development and social transformation). Yin[78] suggests that an 'exemplary' case study should be comprehensive and complete. Offering a complete depiction of all aspects of the case study that is the online Higher Politics course would have been complex considering the sheer scale of the content and communications between the instructor and learners. However, the complete online Higher Politics course can be viewed in its entirety by accessing this link.

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[76] I. Macpherson, R. Brooker and P. Ainsworth, Case Study in the contemporary world of research: using notions of purpose, place, process and product to develop some principles for practice. *International Journal of Research Methodology* 200, 3 (1), pp 57-8.
[77] *Ibid.*
[78] R.K. Yin, Case Study Research: Design and Methods. Beverly Hills, CA: Sage, pp.185-9.

Appendix

1. What did you enjoy about learning Higher Politics online?

8 Responses

ID ↑	Name	Responses
1	anonymous	I enjoyed being able to work at my own pace and having all the resources that I need available to me incase I needed to go back over something.
2	anonymous	It was a really easy to access website, the videos were engaging and not too long but went into enough depth.
3	anonymous	I enjoyed working at my own pace and being able to work independently.
4	anonymous	I've loved the content and all of the really interesting resources provided on the dollar discovers website. All the tasks have been super interesting and relevant, they've expanded my knowledge on the topics but also the political world in front of me. The course and resources provided have really deepened my understanding of our political world & why the systems are the way they are.
5	anonymous	I enjoyed that I was able to push myself to do a new subject and achieving something new
6	anonymous	I enjoyed that it was at our own pace, so when you had busier weeks, you could do a little less and then catch up the next. It was good to have that added flexibility, especially this year I also really enjoyed the video lessons. It made the course more enjoyable as we weren't always looking at websites or textbooks.
7	anonymous	A lot of interesting content and the course has been easy to follow
8	anonymous	How many resources where available and how easy the course was to follow along.

2. Is there anything about the course that you did not enjoy, particularly in relation to the way the course was taught, the resources, the organisation of materials etc.

8 Responses

ID ↑	Name	Responses
1	anonymous	It would be helpful if there was a booklet with notes for each topic.
2	anonymous	No.
3	anonymous	Nothing
4	anonymous	Everything about the course was incredible, and the tasks and resources and incredibly well put together & extremely helpful.
5	anonymous	I think it would've been easier to get motivated to do the work if there was a weekly 'to-do list'
6	anonymous	No
7	anonymous	No I think it was good, but I really enjoy learning through videos and the content I remember best has been the content that was presented that way
8	anonymous	Nope, everything was clearly set out and enjoyable to learn about

3. Did you feel that your needs were met in terms of study support, questions answered, clarity, marked work and feedback? Please explain your answer

8 Responses

ID ↑	Name	Responses
1	anonymous	Yeah everything has been amazing.
2	anonymous	Definetly. Mrs Young is an amazing teacher that replies really quick and gives supportive feedback.
3	anonymous	Yes, all questions I had were answered and my work was marked with feedback on how to improve.
4	anonymous	Absolutely. I knew there was support if I was struggling, and when submitting work I always got a very speedy reply & very detailed and useful comments. Thank you!
5	anonymous	Yes, Hannah has always given detailed feedback and detailed explanations of our marks
6	anonymous	Yes! Any questions that I had were answered very quickly. I always knew that if I had any concerns or needed help, I could just email and would get a response, sometimes within the hour! Although I didn't use them, it was also good to know that there were also zoom tutoring help calls if needed. Marking was always clear, and it was good to receive a scanned copy of your marked work so you could see what you had to improve on/did right.
7	anonymous	Yeah I've always felt supported, but I've felt nervous to reach out and that's on me for why I'm a bit behind I think
8	anonymous	Definitely, Hannah was really supportive and the feedback she gave was always helpful and given quickly.

4. Could you let me know (if you know) your plans for further study at university/college? Do you feel that Higher Politics will help you in your future studies?

8 Responses

ID ↑	Name	Responses
1	anonymous	I'm going to study law at uni, higher politics will definitely help with this.
2	anonymous	Law. For sure, helped me structure arguments properly.
3	anonymous	I don't know what I'm planning to do, but I think studying online will help with future learning regardless.
4	anonymous	My plans are to do Accountancy/Politics at uni, with an aim of secondary school teaching- either modern studies/politics. I strongly feel politics will help massively, with both understanding our political world but also the structure of the economy & economic system (eg through unit 1 with political theory, & unit 3 with the campaign/dominant ideas topics)
5	anonymous	I plan to go and study law and then do a masters in humanitarian diplomacy and civil rights. The main reason I decided to take higher politics was because it was not a course that my or the surrounding schools offered and I believe that completing higher politics will help as it is a very relevant subject to take as it is a social sciene and is a subject that law schools find impressive. Aswell as politics is a very important part of law.
6	anonymous	I will be going on to study Politics and Spanish, hopefully at the University of Edinburgh. Higher politics really helped me as it gave me an insight into what I would be doing at University and also gave me ideas about what to write on my personal statement.
7	anonymous	I'm hoping to study politics and international relations at university next year
8	anonymous	It will, I'm going on to do social sciences (HNC) and there's a unit on politics as well as research methodology that may touch upon politics.

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5. Would you recommend studying Higher Politics online through Dollar Discovers at Dollar Academy? Please explain your answer.
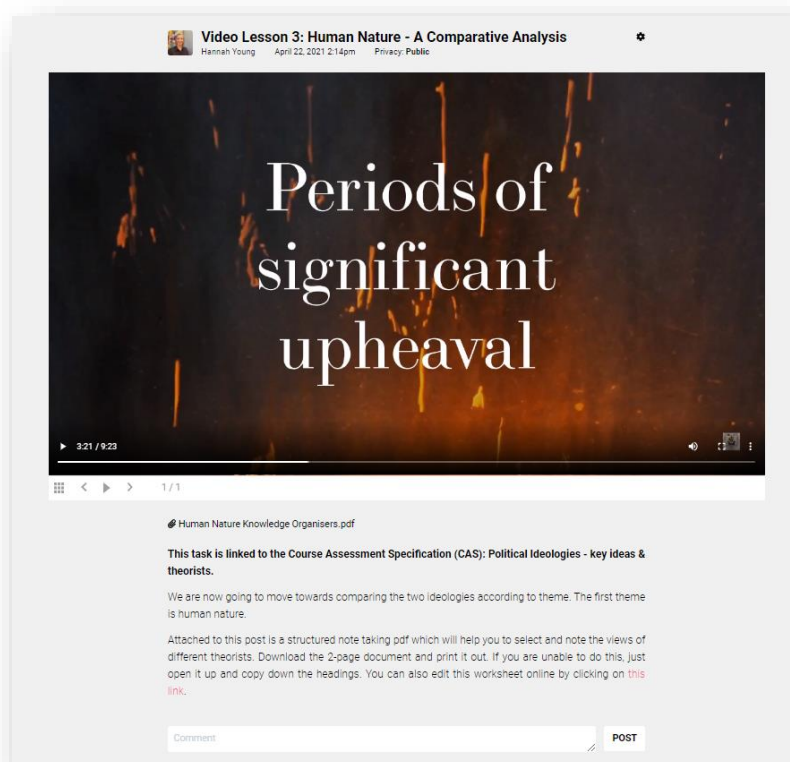
8 Responses

ID↑	Name	Responses
1	anonymous	Yeah absolutely, it is such a useful qualification and the format of it being online is very helpful.
2	anonymous	Yes, easy way to learn a great subject.
3	anonymous	Yes, as Hannah was really helpful and there were plenty of resources and feedback given.
4	anonymous	I would highly recommend studying online with dollar discovers. The resources and support were incredibly useful, it doesn't even feel like you're doing the course remotely due to the wide range of support that is on offer. The exam help has been super useful and has allowed me to boost my essay knowledge and improve my skills- even in other classes like modern studies.
5	anonymous	Yes. While it for me it was very difficult at times and I struggled to find the motivation to continue with the course I am glad that I am continuing the course and that I decided to go out of my comfort zone and push myself to try and gain a new skill and understanding of a new subject.
6	anonymous	Definitely! I have had no issues this year. The resources and teacher are great! I would not say you would be at any disadvantage by studying the course online rather than at a school. 100% recommend
7	anonymous	Yeah, it's been really interesting and I would recommend it to S6 students, especially those who have a lot of free periods and want to take up another course that their school doesn't offer. It's been great to learn something new
8	anonymous	I couldn't recommend it more, at first I was a bit sceptical because I was never interested in politics before doing the course and found it difficult to understand but now I find the subject enjoyable and the course has really made me appreciate the world of politics more.

6. Please take this opportunity to add in any comments that you have about the experience studying Higher Politics online with Hannah Young.
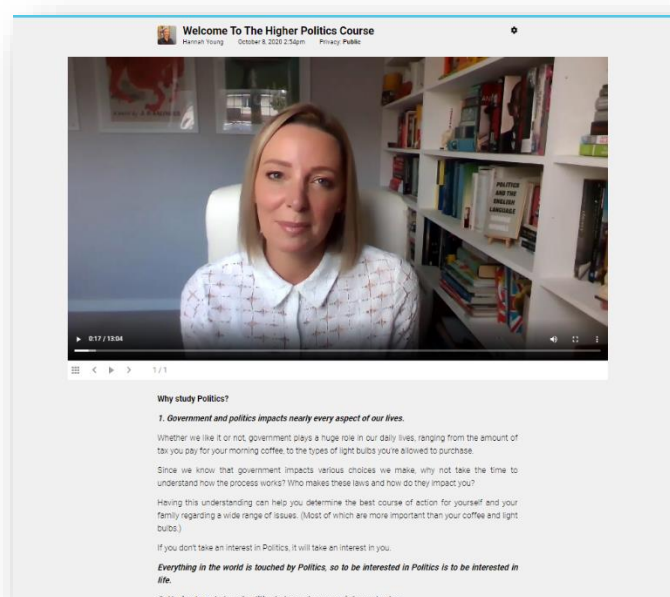
8 Responses

ID↑	Name	Responses
1	anonymous	It's been amazing! Hopefully more teachers will be able to offer this in the future so that more people can gain extra qualifications that their school doesn't offer
2	anonymous	Thank you so much for this programme! I think there's 10 from Alness hoping to do the course in 2021/2022.
3	anonymous	Overall, it's been really good and I've really enjoyed studying politics this year.
4	anonymous	As a student from Morgan, when Mr Thomson directed us to dollar discovers I jumped at the chance as I wasn't too confident with the politics course. This website has helped me massively with my essays, my essay grades have quite noticeably improved since I started using the website. Additionally, even with the skills paper I wasn't very confident before, but after accessing the incredible resources online I felt so much more confident. Thank you so much for all the hard work and effort put into the website. It's really helped deepen my understanding of the course, and its also made me so much more passionate about politics and aware of the world around me.
5	anonymous	I have really enjoyed studying higher politics with Hannah because although it is up to you to complete the work it feels like a very personal experience as Hannah has supported me very step of the way and whatever I have needed help with she has being more than willing to help me with anything I have needed.
6	anonymous	Overall, I've really enjoyed studying higher politics. It was a great opportunity and I am grateful that this course is run as Higher politics is not something that my school offer. The experience was very enjoyable!
7	anonymous	She's been really lovely and helpful, I'm really grateful to her and to Dollar Academy for offering this experience to kids who don't go to the school and who's school don't run the course. I'm learning a lot and it's definitely making me better prepared for my university course next year
8	anonymous	Hannah has been amazing in terms of giving feedback and offering support and if anyone is considering taking the course I think they should. It was also good because there was never any pressure put on us to complete work and this made it more enjoyable.

Appendix A: Questionnaire responses to questions about the online Higher Politics course.

Appendix C: One lesson from the online Higher Politics course using original video content, editable worksheet and pdf.

Appendix D: A welcome video introducing the course and the instructor.

3. Did you feel that your needs were met in terms of study support, questions answered, clarity, marked work and feedback? Please explain your answer

8   Responses

ID ↑	Name	Responses
1	anonymous	Yeah everything has been amazing.
2	anonymous	Definetly. Mrs Young is an amazing teacher that replies really quick and gives supportive feedback.
3	anonymous	Yes, all questions I had were answered and my work was marked with feedback on how to improve.
4	anonymous	Absolutely. I knew there was support if I was struggling, and when submitting work I always got a very speedy reply & very detailed and useful comments. Thank you!
5	anonymous	Yes, Hannah has always given detailed feedback and detailed explanations of our marks
6	anonymous	Yes! Any questions that I had were answered very quickly. I always knew that if I had any concerns or needed help, I could just email and would get a response, sometimes within the hour! Although I didn't use them, it was also good to know that there were also zoom tutoring help calls if needed. Marking was always clear, and it was good to receive a scanned copy of your marked work so you could see what you had to improve on/did right.
7	anonymous	Yeah I've always felt supported, but I've felt nervous to reach out and that's on me for why I'm a bit behind I think
8	anonymous	Definitely. Hannah was really supportive and the feedback she gave was always helpful and given quickly.

Appendix E: Questionnaire responses to a question about how the Higher Politics course met the needs of the learners.

Appendix F: Flippable digital course companion

Appendix G (i): Academic achievement of learners *only* studying the Higher Politics course online.

Name	School	UNIT I	Power essay (20)	Democracy essay (20)	Ideologies essay (20)	UNIT II	Constitutions essay (20)	Legislative branch essay (20)	Executive branch essay (20)
			17	18			20	18	
				20			18		17
			14						
			16	17	20			20	
			15						
			15	19					
			20	19	18		20		
					20		15		

			PRELIM UNIT I	TIMED UNIT I (20)	TIMED UNIT II (20	TIMED UNIT III (12)
				19		
				17		
				20		
				16		
				20		

			SOURCE SKILLS	TEXT COMPARISON (8)	DATA HANDLING (20)
				8	20
				8	20
				8	14
				8	20
					20
				8	20
				8	20
				8	20

Appendix N (ii): Academic achievement of learners with access to in-person classroom instruction *and* the online Higher Politics course.

Name	School	UNIT I	Power essay (20)	Democracy essay (20)	Ideologies essay (30)	UNIT II	Constitutions essay (20)	Legislative branch essay (20)	Executive branch essay (20)
				18	20		20	20	20
				20	20		20	20	16
				5	20		17	16	16
				17	10		11	2	2
				16	12		17	10	9
				19	17		20	20	17

			PRELIM UNIT I	TIMED UNIT I (20)	TIMED UNIT II (20	TIMED UNIT III (12)

			SOURCE SKILLS	TEXT COMPARISON (8)	DATA HANDLING (20)
				8	20
				6	16
				7	16
				6	2
				6	9
				6	20

Leave your responses to the three questions above in the comments below:

| 09/22/20 AT 6:02 AM | Reply | Delete

1. I believe that the Marxist theory of politics is the most compelling as they believe that politics is a sham and that there is no such thing as legitimate politics, they also believe that politics is used to control people.
2. They could implement laws that may stop people from committing these evil acts as they will fear the punishment of doing so
3. Yes because politics will affect your day to day life, what you are and aren't allowed to do.

Hannah Young | 09/22/20 AT 6:12 AM | Reply | Delete

Thanks Erin - some great ideas here. Your comments reveal that you understand that politics permeates every aspect of life and that it can be used to control the masses...theorists such as Machiavelli perceive this to be one of the purposes of politics. I wonder what you think about the idea that politics can be used to empower people?
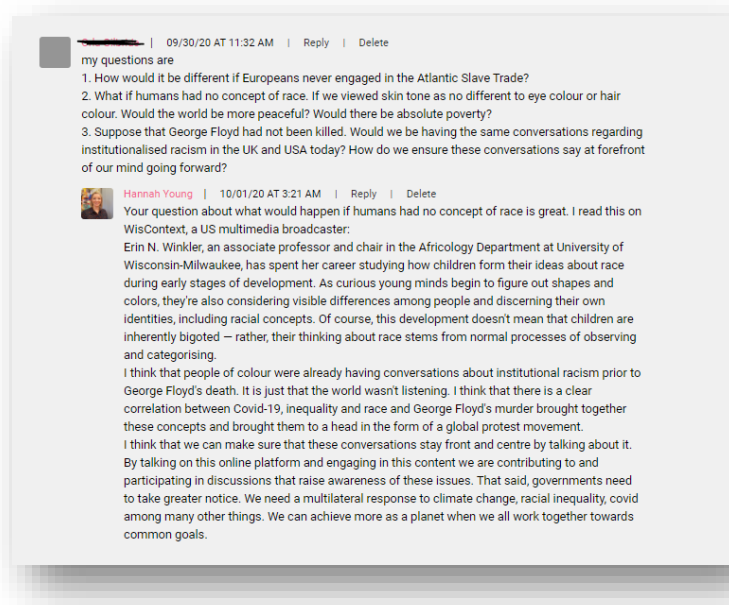
| 09/22/20 AT 1:22 PM | Reply | Delete

1.The most compelling interpretation of politics I found, came from the Marxist theory that politics is essentially a 'sham' or more so the legitimacy of it. They believe that authority is a disguise for power and that it is greatly manipulated by the individuals involved with it. This is compelling in consideration with the controversy that surrounds politics in modern day times.
2.In order to balance out the selfish behavior, leaders and or governments should, in order to balance out selfish behavior all have a clear aim/objective that they agree on. They could also put in place certain laws to make sure this behavior is avoided.
3.I believe that this quote is true/ correct as politics, whether you agree with it or not will make an impact on your life via a variation of factors such as education, career and healthcare.

Hannah Young | 09/22/20 AT 1:49 PM | Reply | Delete

Great ideas, Megan. I wonder what Machiavelli would do if he were advising Boris Johnson or Nicola Sturgeon today with regards dealing with the pandemic? How do you think Machiavelli would view non-mask wearers and people that flout the rules in relation to social distancing?

| 09/23/20 AT 5:45 AM | Reply | Delete

I assume he would tell Boris to get it together and possibly give a lot of guidance of the way the public is addressed and in regard to non mask wearers i reckon he would put in place a consequence such as a fine or he would go the other extreme and come across as laid back due to his belief that power is abused in politics.
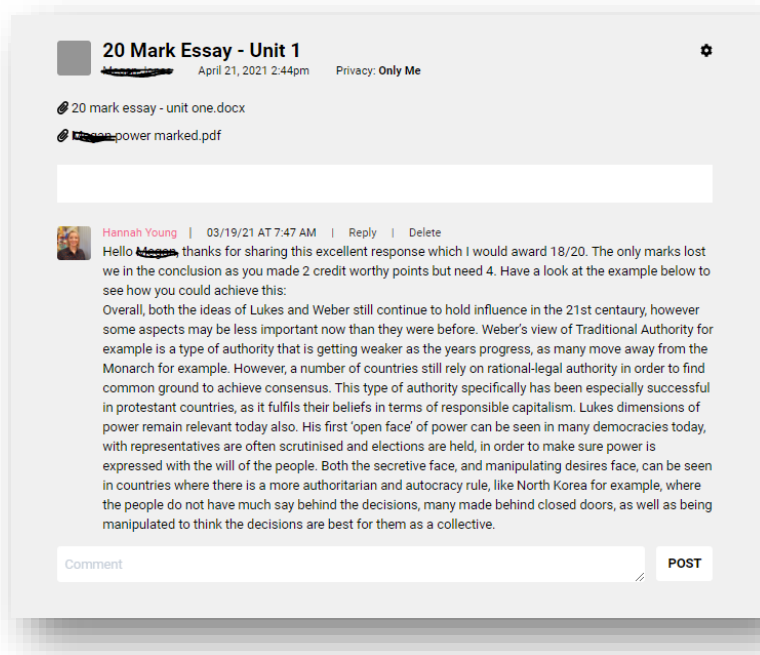
Appendix O (i): Feedback screen capture image from group discussions

| 09/25/20 AT 3:43 PM | Reply | Delete

1. Personally, I agree with Crick's interpretation of politics, that it is a means of resolving conflict by peaceful means. I feel that politics is used to resolve many types of conflicts and disputes in current society and I also agree that it is a fact of basic human existence for differences among people, differences of opinion. I feel that this theory sums up what politics is in today's society pretty well. A theory that I find interesting is the Marxist theory. The idea that legitimate politics is a sham. This isn't something I agree with however I find it very interesting to look into. I had never thought of politics to be a 'disguise' invented and manipulated by the ruling class to dominate the working class. This is not something I fully understand however as the ruling class could be said to have a big say in politics too, which makes it hard to believe that it is manipulated to dominate them.
2. While I don't agree with the view of Machiavelli, I feel politics could 'save' people from themselves to some extent. The government and leaders would be able to put a very strict judicial system in place to combat the evil behaviour of people. This would limit and control the behaviour. However, if they were as wicked as Machiavelli makes them out to be, I don't believe the governments would be able to stop them completely without being a total dictatorship state, leaving very little room for people to act 'according to the wickedness of their spirits'.
3. I think that he is correct. Politics is everywhere, and even if you don't take an interest and don't want to get involved, it will catch up with you. Politics frames and influences our lives daily, effective how we live and how society as a whole is framed. I feel it's very hard for politics not to take an interest in you because of this.

Hannah Young | 09/28/20 AT 3:16 AM | Reply | Delete

Thank you for your comments, John. The Marxist interpretation of Politics, History, etc is centred around economics and the power that those that 'have' wield over those that 'have not'. I think that sometimes when we analyse interpretations of political theorists we need to be mindful of their context and the possible agenda that they have for pushing one theory of politics/history/economics over another. That is not me saying that Marx is right or wrong...it is just the interpretation that Marx and adherents to his theories ascribe to. For me, when interpretations of politics are unwavering, inflexible and almost myopic, I find them difficult to accept as 'right' or 'wrong'. I wonder now if the majority of people fixate on political theories or ideologies or whether they are driven to vote by single issues and personality politics.

Appendix O (ii): Feedback screenshots from group discussions

| 09/30/20 AT 11:32 AM | Reply | Delete

my questions are

1. How would it be different if Europeans never engaged in the Atlantic Slave Trade?

2. What if humans had no concept of race. If we viewed skin tone as no different to eye colour or hair colour. Would the world be more peaceful? Would there be absolute poverty?

3. Suppose that George Floyd had not been killed. Would we be having the same conversations regarding institutionalised racism in the UK and USA today? How do we ensure these conversations say at forefront of our mind going forward?

Hannah Young | 10/01/20 AT 3:21 AM | Reply | Delete

Your question about what would happen if humans had no concept of race is great. I read this on WisContext, a US multimedia broadcaster:

Erin N. Winkler, an associate professor and chair in the Africology Department at University of Wisconsin-Milwaukee, has spent her career studying how children form their ideas about race during early stages of development. As curious young minds begin to figure out shapes and colors, they're also considering visible differences among people and discerning their own identities, including racial concepts. Of course, this development doesn't mean that children are inherently bigoted — rather, their thinking about race stems from normal processes of observing and categorising.

I think that people of colour were already having conversations about institutional racism prior to George Floyd's death. It is just that the world wasn't listening. I think that there is a clear correlation between Covid-19, inequality and race and George Floyd's murder brought together these concepts and brought them to a head in the form of a global protest movement.

I think that we can make sure that these conversations stay front and centre by talking about it. By talking on this online platform and engaging in this content we are contributing to and participating in discussions that raise awareness of these issues. That said, governments need to take greater notice. We need a multilateral response to climate change, racial inequality, covid among many other things. We can achieve more as a planet when we all work together towards common goals.

Source O (iii): Feedback screenshots from group discussions

20 Mark Essay - Unit 1

April 21, 2021 2:44pm   Privacy: **Only Me**

20 mark essay - unit one.docx

power marked.pdf

Hannah Young | 03/19/21 AT 7:47 AM | Reply | Delete

Hello ~~Megan~~, thanks for sharing this excellent response which I would award 18/20. The only marks lost we in the conclusion as you made 2 credit worthy points but need 4. Have a look at the example below to see how you could achieve this:

Overall, both the ideas of Lukes and Weber still continue to hold influence in the 21st centaury, however some aspects may be less important now than they were before. Weber's view of Traditional Authority for example is a type of authority that is getting weaker as the years progress, as many move away from the Monarch for example. However, a number of countries still rely on rational-legal authority in order to find common ground to achieve consensus. This type of authority specifically has been especially successful in protestant countries, as it fulfils their beliefs in terms of responsible capitalism. Lukes dimensions of power remain relevant today also. His first 'open face' of power can be seen in many democracies today, with representatives are often scrutinised and elections are held, in order to make sure power is expressed with the will of the people. Both the secretive face, and manipulating desires face, can be seen in countries where there is a more authoritarian and autocracy rule, like North Korea for example, where the people do not have much say behind the decisions, many made behind closed doors, as well as being manipulated to think the decisions are best for them as a collective.

Comment   POST

Source P (i): Feedback screenshots from student folders containing assessed work.

20 Mark Source Question
February 1, 2021 9:56am   Privacy: **School**

📎 Practice Source Question.docx

20 Mark Source Question

Hannah Young | 02/01/21 AT 4:56 AM | Reply | Delete
Thanks, ████. This is a fantastic effort. I have some feedback that I would like to share with you. This is a tricky skill to master, so do not worry - it took me a while! Your analysis on the first component of the first part of the viewpoint may be questioned as although Labour lost control of almost all of their councils and saw a drop in seats and votes, the party still got the most votes and were also the only party to control any councils.
In the first and second paragraphs, you needed to identify all 4 aspects (control of councils (A), seats (B), % seats (B), votes (B). It seems really harsh, but without identifying all 4 aspects and dealing with them separately, you cannot achieve any more than 2/4 each for these paragraphs.
In the third paragraph, you missed out the third aspect which was number of candidates. This again, means your mark is capped at 2/4 for this paragraph. It is a very punitive mark scheme.
Paragraph 4 ('...fairer representation...') is perfect (4/4) as is Paragraph 5 (The 2012 election was disappointing as there was a deterioration in both
these areas)
So in total you would achieve 14/20 which is excellent, but with a few tweaks I know you achieve more points. You can hopefully see now that when you miss out just one aspect, the mark scheme is so rigid that it prevents you from moving beyond 2/4.
If you wanted another practice (no compulsory) you could have a go at the one that I teach step by step in the video? Well done, though this is a huge achievement :-)

Comment   POST

Appendix P (ii): Feedback screenshots from student folders containing assessed work.

Democracy: Task 3
November 4, 2020 11:50am   Privacy: **School**

📎 Task 3. Plato and Democracy.docx

Plato and Democracy synopsis.

I think that this one may be a little bit of a ramble. I am a little bit over the 250 words and could have definitely kept going and went into more detail but had to stop myself!

Hannah Young | 11/04/20 AT 6:50 AM | Reply | Delete
Thanks for sharing this, ████ I think that what you have written is really interesting and well observed. I do think that asking the public about Brexit was flawed as this is too complex an issue to be decided or even commented upon with a simple 'X' in a box. Leaving the EU is nuanced as it impacts aspects of our lives and livelihoods - the details of which are not commonly known by the general public. Perhaps that is too disparaging a comment to levy at the 'masses' or the public, but I do believe that the Brexit vote became an emotive vote based in a perceived patriotism and a sense that 'we could take back control' and end the strain of immigration. The loudest and most well-funded voices were proclaiming this...even though the truth of the matter is that immigrants in the UK make a net contribution to our UK economy, and are therefore not a drain. The interviews with pro-Brexit voters identified clusters of people that really could not articulate which laws we needed to be freed from and what the 'problem' with immigrants actually was or the scale of the perceived issue. The fact that the most googled phrase the day after the EU Referendum was 'What is the EU?' really plays into Plato's argument that democracy is not for the uneducated.

Comment   POST

Appendix P (iii): Feedback screenshots from student folders containing assessed work.

55

INTRO VIDEO

This short video introduces the concept of constitutions and discusses the concepts of codified and uncodified constitutions using relevant examples. Constitutional arrangements are linked to the political concept of democracy.

TASK 1

Six key historic documents task: Pupils access the pdf entitled, 'Historical documents in the UK Constitution'. They undertake independent research into the Magna Carta, Bill of Rights, Act of Settlement, Acts of Union and Parliaments Act. Hyperlinks are provided in the pdf. *CAS link: Constitutional arrangements - the origins and development of the constitutional arrangements.*

TASK 2

Sources of the UK Constitution task: Pupils read pages 44-49 from the pdf entitled 'Chapter 3 'UK Government and Politics'. The pdf entitled 'Questions on the Sources of UK Constitution' should be consulted. The pdf contains questions on the sources of the UK Constitution. *CAS link: Constitutional arrangements - the origins and development of the constitutional arrangements.*

TASK 3

Principles underpinning the UK Constitution task: Independent reading task, pages 41-44 from the pdf entitled 'Chapter 3 'UK Government and Politics' A 15 question quiz follows. *CAS link: Constitutional arrangements - key underlying principles.*

TASK 4

Unitary and Federal Systems comparison task: Pupils consult the pdf entitled, 'Federal and Unitary States – Britannica Online Encyclopaedia with the purpose of identifying the key differences between the two types of state and the impact on constitutional arrangements. Pupils can make their own notes, or make them online using www.canva.com. Accounts are free. If using canva, pupils should search for the template 'Idea Book Brainstorm' and add in the main features of Federal and Unitary states by editing the brainstorming template: *CAS link: Constitutional Arrangements - the type and nature of the constitutional approach, key underlying principles & the origins and development of the constitutional arrangements.*

TASK 5

Constitutional amendments task: Pupils consult the pdf entitled. 'Constitutional Amendments LSE Article'. Pupils should consider the following questions: 1.According to Prof. Cram, how easy is it to make constitutional amendments in the UK? 2. What benefits might this bring? 3.What does the Fixed-Term Parliaments Act, 2011, reveal about the ability and ease with which constitutional change may occur in the UK? *CAS link: Constitutional Arrangements - the flexibility and adaptability in each system.*

TASK 6

Constitutional reform task: Pupils should access the pdf entitled, 'Constitutional Reform Research Task' and carry out some independent research into the seven examples provided. Hyperlinks are included as a prompt. This task could also be a group task with the research load shared among pupils. *CAS link: Constitutional Arrangements - the flexibility and adaptability in each system.*

TASK 7

The protection of individual rights task: Pupils read the pdf entitled, 'Democratic Audit analysis'. Pupils should identify examples of instances where the UK constitution has protected individual rights or has had limited impact in protecting individual rights. Relevant case studies and/or examples should be noted. Pupils can use canva again to create engaging notes. Pupils can search for 'infographics', 'book report', 'presentations' etc to create notes in a format that suits the individual. *CAS link: Constitutional arrangements - the position of the judiciary and the role of the constitution in safeguarding individual rights.*

TASK 8

Debate: Pupils may wish to organise a debate on the question, "Should the UK adopt a codified constitution?". Pupils read pages 57-60 from the pdf entitled 'Chapter 3 'UK Government and Politics' as a prompt. This may also be an interesting topic to explore for the Coursework aspect of the Higher Politics course. A poster is available should the debate need to be promoted in school. This can be found in the pdf entitled, 'Debate poster'. All of the tasks lead to this final discussion on the UK Constitution. *CAS link: Constitutional arrangements - the origins and development of the constitutional arrangements, key underlying principles, the flexibility and adaptability in each system, the position of the judiciary and the role of the constitution in safeguarding individual rights.*

TASK 9

Introduction to the US Constitution: Pupils will watch the short video, entitled, 'United States Constitution: An Overview'. A short quiz follows. *CAS link: Constitutional arrangements - the origins and development of the constitutional arrangements.*

Appendix Q : Teaching and Learning Plan for the Constitutions unit of work for the Higher Politics course.

A Step-By-Step Guide To Answering The 20-Mark Data Handling Question (Paper 2)
Hannah Young   January 8, 2021 9:09am   Privacy: **Public**

THE DATA HANDLING SOURCE QUESTION

0:00 / 25:45

1 / 1

2019 20 mark source question.pdf
20 mark data handling qu.pdf
technique.docx

The 20-mark source question features in Paper 2 (you will attempt one 8-mark text based source question and one data handling question - the latter will be taught here).

The question appears daunting on first glance due to the amount of data that you need to process

Appendix Q : Step-by-step guide to mastering a specific skill in the Higher Politics course.

1. Have you had any issues accessing the course as a result of poor or lack of WiFi?
More Details

- Yes   0
- No   5
- Sometimes   2
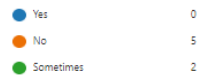
2. Do you have access to a laptop or computer at home?
More Details

- Yes   7
- No   0

3. Do you have access to a laptop or desktop computer at school when you need to use one?
More Details

- Yes   7
- No   0

4. Are you able to print materials at school or home?
More Details

- Yes   7
- No   0

5. Have you had any issues with the Dollar Discovers website?
More Details

- Yes   2
- No   5

6. If you have had issues, please could you describe them below?
More Details

2
Responses

Latest Responses
**

7. Have you found that emails from the course instructor have entered your junk email boxes?
More Details

- Yes   2
- No   5

8. Is there anything you would like to share with regards to access to the course that is not covered in the questions above?
More Details

2
Responses

Latest Responses
"Nope"

Appendix R : Online questionnaire requesting information from learners about accessibility of the online Higher Politics course.

57

Imagine that you have just been appointed either as Prime Minister of the UK or First Minister of Scotland. You could choose another country or nation if you prefer.

What would be your priorities in terms of health, education, foreign policy, trade, the economy or any other aspect of governance? **Explain your thoughts in the comments below.**

Once you have posted your response, please read and reply thoughtfully to at least 2 other members of the class. In your reply, you could ask questions, comment on specific points made, compliment the ideas shared, and build on ideas shared.

Daniel Hooper-Jones | 09/18/20 AT 11:35 AM | Reply | Delete

As First Minister of Scotland, my first priority would be to ensure that democracy is upheld. I would do this by allowing for extra funding for local councils and organisations. In terms of health, health works best when it is organised by the state. I would build on our current NHS to recruit more staff and offer more support. I would also nationalise care because Scotland (especially Scotland post-COVID) needs a nationwide, state-run, consistent care system. Education is also incredibly important to me. Great education provides a great society, so I would ensure that all aspects of education (particularly colonial history, politics and democracy) are covered in a new and improved Curriculum for Excellence. Finally, I would ensure that the money required for such projects would come from drastically cutting spending on military, whilst increasing taxes on the very rich.

Hannah Young | 09/20/20 AT 10:53 AM | Reply | Delete

Daniel, your vision sounds entirely reasonable and sensible. I expect that such an approach would make you popular among some of the Scottish electorate.I think that your idea for nationalised care is interesting and topical in the current pandemic. I agree with the need to make amendments and additions to the education system to ensure that students are more aware and have the opportunities to become globally responsible citizens.

When you say that you would cut spending on the military, I wonder if you are also including the money spent on Trident each year. Some reports estimate that extending the life of the current Trident missiles into the early 2060s will cost around £250 million. Keeping the current Trident submarines in operation until 2028, four years longer than planned, is also expected to cost between £1.2 and £1.4 billion. I expect that without such weapons, there would be surplus funds to spend on more socially beneficial systems. Some would argue that having nuclear weapons is a deterrent and keeps us safe. I wonder what your view on this is?

Increasing taxes for the highest earners would be regarded as fair by many. There is an argument that should this happen, these high earners may leave Scotland or perhaps find tax loopholes to avoid paying a higher percentage of their salaries. I wonder how we could mitigate against this? All this considered, though I would probably vote for you!

Maria K R Mackay | 09/30/20 AT 7:04 AM | Reply | Delete

As the leader of a hopefully independant Scotland, I would prioritise Education and Transport primarally. Firstly, I would like to say the connection between Scotland and the UK should be prioritised as they serve as a strong Allie however, we need the freedom to blossom as our own country and have the right to make our own decisions. I am a strong advocate for the need of Political and Finiancial education taught to all students. Many of my peers have little or no knowledge on these subjects and I feel they are vital for the survival in the real world. I also feel, as someone who uses it as my primary trasport, that public transport needs to be natioalised and made easier as well as cheaper. The cost of a train ticket from Inverness to Glasgow can be upwards of £60, to me, this is extremely high for the service provided. I would take massive influence from Jacinda Arden as I feel she has created a strong and just society that all could flourish in.

Hannah Young | 09/30/20 AT 7:19 AM | Reply | Delete

Great ideas, Maria. I think your ideas about the need for compulsory political and financial literacy to be taught in schools is astute. Understanding these issues is central to being a citizen and realising our power, or lack of power in some cases. Politics and economics are what makes the world go around - why then these subjects are optional is odd. Surely in order to prepare young people for life, these subjects and skills must be taught.

Jacinda Arden is a great role model for all genders, leaders and future leaders. She really is a light in the political darkness of leadership. I think the US Presidential Election debate last night demonstrated that.

Appendix S : The first task that learners on the Higher Politics course were encouraged to attempt.

Hi, hope you are coping during this lockdown.

I'm not sure if this would be possible considering the lockdown but I was wondering if you could maybe send me paper copies for the remainder of the course. I do not have access to a printer at home and I find work easier when I have a paper copy. I hope this would be ok.

I was also wondering how I will receive feedback for my prelim, will it be through my pupil folder?

Would it still be ok to have a meet regarding conclusion work?

Thank you for your time

~~████~~

Young-H
Tue 26/01/2021 14:24
To: ~~████████~~

Model concusions.docx
16 KB

Hi ~~████~~

Great to catch up with you this afternoon. Please find attached the document that I was talking through. You can use this for inspiration!

Take care and keep in touch!

Hannah

Appendix T : An email requesting support and a follow-up email following the one-to-one Zoom tutorial on writing

conclusions.

Hi

That is great news, Thank you!

Online learning is a little tricky. It's quite hard to balance the workload and leave also leave time to relax but I think many are in the same position.

I'm getting on good with the Politics course. I've actually applied for Politics/IR and Spanish and have already got 2 unconditional offers so the work we're getting is really enjoyable for me. I am finding voting behaviour a little bit more tricky than the other topics I have covered, but I think it is just getting my head around the models and how to link the data with them.

I hope you are well,
Thanks
~~████~~

On 25 Jan 2021, at 14:00, Young-H <~~████████████~~> wrote:

Hello ~~████~~

I managed to get access to my mail at school and so was able to pick up and mark your Higher Politics Prelim. I am delighted to advise you that you achieved 20/20 for your democracy essay. Your examples were relevant and supported your analytical commentary which was sustained throughout.

Well done!

How are you getting on with online learning at your school and the Higher Politics course?

Kind regards

Hannah

Hannah Young
Teacher of History, Modern Studies and Politics

Appendix U : An email exchange demonstrating communication between the instructor and a learner.

Hello ████,

Thanks for your email; I am well, although looking forward to the Christmas holidays as I am sure you are. Thank you so much for your feedback. I am so pleased that you liked the digital textbook! I am planning to create more for each aspect of the course as soon as I can. Keep an eye on the email updates for news on more e-publications for the course.

Good luck preparing for your Prelim. If you want to schedule any supported study time with me before the date of the exam, just let me know and I will organise a Zoom call for us.

I also have a copy of Robert Greene's book and think it is eye-opening. If you like this book, you will really enjoy his other book on war. My favourite book by Greene is 'The Laws of Human Nature'. Perhaps one for the Christmas list, Erin!

Best wishes

Hannah

Hi Hannah!

How are you? I just wanted to send you an email to let you know that the digital textbook is so helpful! I was wondering if you had one for political ideologies or power, authority, and legitimacy?

My modern studies teacher received our prelim, so I am hoping to sit that the week we come back after the Christmas holidays.

I have also been reading Robert Greene's book "the 48 laws of power" which has been really interesting!

Best wishes
████████

Appendix V : An email exchange demonstrating relationship building, support and the impact of the e-Textbook

Hi Hannah

I'm just taking some trouble splitting up the information in the legislative comparison notes to put under the headings of ability to pass legislation, ability to scrutinise and influence government and the roles and influences of committees. I was wondering if you'd be able to tell me what section of the notes that I need to focus on for each 3 of the headings? Thank you.

Sent from my iPhone

On 25 Mar 2021, at 16:33, Young-H <[redacted]> wrote:

Hello [redacted]

Thanks for reaching out. This is a tricky division of concepts, so please do not worry that you are having trouble with this one.

So, you have identified the three paragraph themes that you would include in a 20 mark essay so let's take each thee and identify what you need and where you can find this information

1. Ability to pass legislation.

This section requires you to have an understanding of how laws are passed in the UK and the USA. You need to make reference to how Bills become Acts of law in both systems and give an example of each. This covers your Keg (Knowledge example) points. Your analysis would include points about how easy it is for the legislative bodies (Parliament in UK and Congress in US) to pass laws and/or stop their executives (UK = PM, US =President) from passing laws themselves without legislative input. What we can see is that in the UK it is difficult for the legislative to pass laws if the executive has the majority of seats in the Commons. The US system is set up in such a way that makes it more difficult for the President to get his/her laws passed and they ca be blocked (an example would be the budget). However, the President can issue Executive Orders which allows his/her to get around consulting other political representatives when it comes to making laws. You will find the notes on the UK here and the US here.

2. Ability to scrutinise the executive

In the UK there are two key ways that the legislative branch can scrutinise the executive - PMQs and the existence of the shadow cabinet. You will find these notes here. In the US there is no cabinet in waiting (shadow cabinet) and so this is a good point of comparative analysis as it shows an absence of this form of close scrutiny. In the US they have congressional oversight. The attached document discusses this concept. You could also discuss the legislative's ability to impeach a sitting President and give the example of Trump being impeached twice. One point I would add here is that effective scrutiny of executives by their legislatures often is improved with the use of media platforms because on their own, they are not that public in their scrutiny.

3. Committees

So committees are another form of scrutiny but deserve their own paragraph. In the UK the legislature has select committees. You can give examples of how these. In the US, the committee hearings get prime time TV slots - the Clinton Benghazi hearing is a good example. It could be argued that the US legislative branch is more effective in this area because of the coverage which could be argued to heighten democracy as it really does visibly hold to account the government.

It is worth noting that the practice of scrutiny normally involves:

- identifying which aspects of government activity should be subject to scrutiny
- gathering and examining evidence in order to develop an understanding of what the government is (or is not) doing under the democratic mandate it has been given by the electorate and what the outcomes of that activity (or inactivity) have been, including by requiring explanation from representatives of government
- undertaking analysis and drawing conclusions about whether the Government is spending taxpayers' money wisely, administering itself efficiently and developing and implementing policies that achieve desirable outcomes
- attempting to influence government directly or indirectly (via other actors, including the media and the public) to take account of the evidence found and conclusions reached through scrutiny.

The Institute for Government argues that the primary purpose of scrutinising government should be to improve its effectiveness in terms of processes and outcomes.

The above will help you think analytically about the effectiveness of all of these points.

Let me know if this helps or doesn't! Always happy to give you any support.

Best wishes

Hannah

Yeah that was great thank you so much, I've just completed the essay. I was also wondering if you would be able to give me some idea of where I can find higher politics revison sources from or any books that will help me to revise. I've nearly finished the course but I'm just a bit stuck on revison. Thank you so much 😊
Sent from my iPhone

Appendix W : An email exchange demonstrating individualised support and instruction to improve attainment of a learner

who subsequently attained 100% for the essay in question in this email exchange.

Young-H
Wed 30/09/2020 11:12
To: ▮▮▮▮▮▮▮▮▮

Hello ▮▮▮▮▮▮▮

Thank you for expressing an interest in the Higher Politics course with Dollar Discovers.

I have set up an account for you to explore the course. Your log in details are your email address and your password is ▮▮▮▮▮▮▮ You can change this password should you wish. You will need to be logged in to access the full course.

The way the course works is that you are able to watch the video lessons, read the materials, complete tasks and then submit them to me for assessment by uploading any work completed to your designated student folder. You can be entered for the exam/units at your school or at Dollar Academy. You can also take the course and not sit the exam or units. I would act as your coach/teacher guiding you through the Politics course, including the assignment component.

There are opportunities to meet via Zoom when it suits you, but the work is carried out in your own time and at your own pace. You are free to contact me at any time during the course to request any support.

Once you have logged in, take a look at the welcome video here as this shows you how to navigate the website.

There is no cost to you. All of the materials are free to use and can be accessed on any device.

I would be really interested to hear your thoughts about the course and whether you would like to proceed.

Kind regards

Hannah

Appendix X : The welcome email received by learners that expressed an interest in enrolling in the online Higher Politics course.

Course content

The course consists of three areas of study: Political theory, Political systems, and Political parties and elections. There is considerable flexibility in the contexts that can be studied within each area to allow for personalisation and choice.

Skills, knowledge and understanding

Skills, knowledge and understanding for the course
The following provides a broad overview of the subject skills, knowledge and understanding developed in the course:

♦ researching, analysing, evaluating and synthesising information from a wide range of political sources
♦ using a wide range of sources of information to draw detailed and balanced conclusions about political concepts and ideologies
♦ comparing and contrasting different political systems, making generalisations, where appropriate, on the political process
♦ interpreting and evaluating a wide range of electoral data
♦ drawing on factual and conceptual knowledge of political theory, political systems, and political parties and elections

Skills, knowledge and understanding for the course assessment
The following provides details of skills, knowledge and understanding sampled in the course assessment:

Question paper 1
This question paper has three sections: Political theory, Political systems, and Political parties and elections. Candidates demonstrate the application of skills and breadth of knowledge and understanding from across the three sections of the course. This question paper samples from the knowledge and understanding as follows:

Question paper 2
This question paper assesses the skills of comparing and contrasting information and interpreting, synthesising and evaluating a wide range of electoral data.

Appendix Y : The standardised course content stipulated by the SQA for Higher Politics.

The End Of Term
Hannah Young   January 7, 2021 5:40pm   Privacy: **Studio**

Hello to you all

We have arrived at the end of what has certainly been an unusual term. Unusual in many respects, but not least that you are studying for a Higher qualification online. You are trailblazers for subsequent pupils and for other schools and colleges that may seek to offer this form of asynchronous digital learning.

You have risen to each challenge with which you have been presented and kept on going. Many of you are now looking ahead to the next stage in your academic career. Despite the uncertainty in the world right now, what *is* certain is that you are all resilient and committed to academic achievement. You will, I am sure, spend some time over the holiday to prepare for your exams, but please do take this time as an opportunity to rest and reflect on all that you have achieved.

I wish you all a happy Christmas and I will be in touch again in the first week of January to reconvene our course.

Best wishes

Hannah

Appendix Z : An example of the regular communications updates between instructor and learners on the *Dollar Discovers*

website

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