

Emerging Results on the Impact of COVID-19 on Police Training in the United Kingdom

Abstract

The emergence of COVID-19 impacted teaching across the globe and this study is the first to examine the impact it had on the delivery of training within policing by seeking to address how police services in the United Kingdom adapted their delivery during the pandemic. The study achieves this by focusing on 3 aims (1) How did police services in the United Kingdom adapted delivery of training and education during the COVID-19 pandemic? (2) What was the impact of the adaptations? For example, what worked and what did not? (3) What can be done in preparedness for future significant interruptions in police training and education? In pursuing these aims the study identifies reliance on predominately pedagogic approaches such as increased use of the National Centre for Applied Learning Technologies (NCALT), instructor led power-point presentations and pre-recorded material, undermining engagement and motivation towards training amongst officers. Discussion outlines proposals for improving present police training and in future pandemics.

Introduction

The emergence of the COVID-19 pandemic in early 2020 had an impact on society that was unprecedented in contemporary times. At the announcement of the pandemic there was significant apprehension within society regarding the danger of COVID-19 and this immediately led to a reduction in mobility of citizens in the UK (Halford, et al, 2020). This was underpinned by the introduction of significant new legislation in the form of the Coronavirus Act 2020 (Coronavirus Act 2020 (c.7) United Kingdom) which was implemented to prevent contact between people to help stop the spread of the virus. This new legislation included a number of rules which affected peoples routine activities, which included “*stay at home*” lockdown laws, and the closing down of significant sections of society such as schools, businesses, and large events (Brown, 2021). Further restrictions were also placed on social distancing, public gatherings, and the necessity for infected persons or their close contacts to self-isolate to stop the spread of the virus was also made mandatory (Brown, 2021).

Such a rapid reduction in mobility, and the new rules, significantly affected the police in the UK as it caused a rapid reduction in overall crime (Halford, et al, 2020). The reductions were particularly pronounced in relation to property crimes such as theft and burglary (Halford, et al, 2020). In addition to there being less crime, the police also received fewer calls for service, and spent less time at crime scenes (Solymosi et al, 2021) and had fewer road related incidents to attend to (Solymosi et al, 2021). In contrast to the reduction in a number of crimes and incidents for the police to respond to, many other types of demand placed upon them also increased or emerged. This included incidents related to breaches of coronavirus legislation which presented a new and significant increase in demand on the police (Solymosi et al, 2021), along with small rises in anti-social behaviour (Halford et al, 2022).

In addition to policing, another area significantly affected was the education sector, with schools, further and higher education establishments transitioning almost entirely to online distance learning (Marinoni et al, 2020). Policing was not immune to these changes and although classified as a key emergency service, substantial elements of the police workplace were affected and this included the delivery of police training and education (Koerner and Staller, 2021). As a key emergency service the police were not as routinely affected by directions for people to work from home, but they were significantly impeded by social distancing guidelines that had to be strictly implemented to avoid transmission of the COVID-19 virus.

Unlike many other industries and professions however, the police deliver training that is directly linked to the safety and protection of communities, and as a result, it can directly impact upon the levels of confidence, trust and legitimacy that they are afforded (O'Rawe, 2007). Because of this, cancelling training and educational processes was not a policy option that could be adopted without due consideration.

To understand how police services responded in the United Kingdom (U.K) this study is the first to research the national response. By utilising the Freedom of Information Act (FOIA) 2000, this study gathered data from a large volume of police services across the U.K to answer the primary question: What was the impact of the COVID-19 pandemic on police education and training delivery in the United Kingdom. By asking questions regarding the cancellation of

essential training, the scope and nature of the transition to online learning, number of officers affected and the financial impact, the study presents an assessment of the potential advantages and unintended consequences of the changes. To support the empirical data a second research question is posed: What was the impact of the adaptations? To explore this question, the study surveyed the views and perspectives of operational police officers in an effort to understand the personal and professional impact of the changes put in place. The findings of the study are discussed in the context of the final research question which asks: What can be done to prepare for future significant interruptions in police training and education? The article uses the results of these questions to pose a number of key recommendations including improved prioritization of training agendas and greater adoption of teaching methods towards approaches that use digital and online medians to maximize motivation, engagement, flexibility and cost-effectiveness.

Literature Review

In this literature review we provide a brief overview of the research regarding workplace training. We then outline how the majority of police training is delivered within the United Kingdom (UK) before describing how law enforcement agencies and higher education establishments across Europe support the delivery of policing related educational material. We then provide an introduction to the opportunities presented within workplace training by digital and online mediums, and outline how the UK police service has sought to leverage this digital transformation. Finally, we present a summary of the research examining the effectiveness of digital and online learning in emergency services before describing the scope of COVID-19 related research to date which has led us to the formulation of the studies research gap.

Police Workplace Learning

Within policing, workplace learning is the dominant form of training and education and this area has been subject to a number of studies (Buckley and Caple, 2009; Dochy and Billett, 2011; Marsick and Watkins, 1994; Knowles and Holton, 2020; Robles, 1998; Rogoff, 1991; Salomon, 2003; Welton and Mezirow, 1995). Literature in respect of models of workplace training, education and development has established that the traditional apprenticeship system known as ‘on the job training’ (as described by Buckley and Caple, 2009) stands out as the dominant

approach. Apprenticeships are a good example of the ‘handed-down’, andragogic approach that exists within policing in the form of the tutor constable method of probation, whereby new recruits spend a ‘bedding in period’ under the watchful eye of a more experienced officer.

In the UK the College of Policing is the primary provider of authorized professional practice (APP) guidance and accreditation of police delivered training, education and development. In practice the APPs are delivered through a range of courses delivered centrally within the College of Policing (CoP), at a regional level by agencies such as the National Crime Agency (NCA) or regional counter terrorism units (CTU), and locally by individual police services. All are delivered based upon the accredited APP, by recognized trainers. In addition to formal CoP recognized training there is also the ad hoc, bespoke delivery of a wide range of continuous professional development (CPD) offerings which are provided in short course format. To support such training there have been two dominant e-learning systems used in the UK. These are the police knowledge hub, which is described as being “*created for UK policing and its public and select private sector partners, to help you share information, discuss ideas and opportunities and encourage greater collaboration*”, and the National Centre for Applied Learning Technologies ([NCALT](#)) which was originally designed to assist the 43 police forces in England and Wales in adopting e-learning technology, with limited success. To underpin the sharing of knowledge and awareness the forum known as POLKA (Police Knowledge and Awareness) was also introduced in the U.K but this was replaced in 2020 with the knowledge hub, which is managed by the Police Digital Service (PDS).

Police Higher Education

In addition to the workplace learning delivered within police services and provided by the CoP there now exist in the U.K a number of formal higher education qualifications that police officers can obtain. At this time, it is worthy to highlight that such formal education is not the subject of this study we focus entirely on police workplace learning. However, it is worthwhile to include an overview of this area as it provides additional context to police training in the U.K as a whole.

In the UK higher education qualifications are most frequently accessed either prior to, on entry into the police service, or during service to compliment continuous professional development

of existing officers and staff. These include a variety of diplomas, foundation, and honors degrees in Policing related subjects. These schemes are all underpinned by the newly developed police education qualifications framework (PEQF). The PEQF is described as the ‘*new national framework for the professional training and. qualifications of police officers by rank from constable to chief officer*’ (College of Policing, 2022). The PEQF provides direction on the subjects, content, depth and scope of police education at the various higher educational levels.

Schemes accessed at the point of entry that fall under the PEQF include the ‘Police Now’ program which offers access to community policing roles for degree qualified applicants. Most recently, a wide array of policing degrees have also been developed and are on offer to aspiring officers at a number of universities throughout the U.K. To retain an element of workplace learning the service has also embraced the police constable degree apprenticeship (PCDA), which is described as a “*mixture of dynamic practical on-the-job learning alongside academic classroom-based theory and learning*” (His Majesty’s Government, 2022). Together, all of the forms of police education and training provide a highly professionalized service that is recognized at a national and international level.

International Police Training

In addition to training and education provided in the UK, a range of international training and education forums have become established since the 1990s that support the police. These include the European Union Agency for Law Enforcement Training (CEPOL) which offers training courses, conferences, an online learning platform, webinars, science and research, exchange programs and a European joint master’s program; EUROPOL and INTERPOL both offer training and capacity building through information sharing, ‘best practice’ publications and training; OSCE provide the Polis Knowledge and e-Learning Platform, a portal for law enforcement agencies to access training and other law enforcement content; similarly, resources are also provided by the European Forum for Urban Security (EFUS); and the Association of European Police Colleges (AEPC) also provides knowledge sharing, ‘best practice’, shared research, and e-learning.

Technology within Police Training

A key consideration that affects all of the aforementioned modern day learning environments is the origin of the internet, advances in software, networking, and the development of technology that can be used to support and deliver training and education. There have been a number of recent studies that have examined the effectiveness of online mediums and shown that they can successfully improve student outcomes and motivation if used well (Chairiyani et al, 2021; Clark and Mayer, 2016; Gunawan et al, 2020; Ma et al, 2017 and Purba, 2020). U.K Policing has not been unaffected by these advances and they have sought to position themselves to take advantage of the new enablers. In 2015 the Police ICT company was set up to attempt to embrace all that IT had to offer and this has since evolved into the Police Digital Service (PDS). However, it is unclear if this has successfully enabled services to embrace technology in the U.K police effectively, beyond the introduction of services such as NCALT and the PDS knowledge hub.

When we examine the research into digital and online training in policing we identify that only a small number of studies have examined their application (Adams et al, 2019; De Laat and Broer, 2004; Kase et al, 2016; Robson and Manacapilli, 2014; Marler and Straus et al, 2019). Honess et al (2021) have suggested that a well-crafted online platform can improve the experience of policing students. In contrast, previous research into the use of NCALT, the U.K police services main online training medium has found it to be ineffective (Adams, 2017 and Honess, 2016). De Laat and Broer (2004) have examined community learning portals, similar to those that exist within U.K policing and delivered online through the managed learning environment (MLE) and online learning community (POLKA). In other research, Adams et al, (2019) examined a game-based child interview simulator that had been developed and used to train new recruits, who when tested, retained a greater understanding of the issues taught within the game, compared to students who received face-to-face training. Research from other industries has also examined training delivered through digital and online mediums. For example, in medicine, surgeons trained using an evidence-based video game improved decision making when compared to their peers (Mohan et al, 2017). Virtual reality (VR) simulations used to train military or law enforcement personnel also identified similar positive findings (Kase et al, 2016; Marler and Straus et al, 2019; Meeker et al, 2015 and Robson and Manacapilli, 2014).

The Impact of COVID-19 on Teaching and Education

In respect of research regarding the coronavirus pandemic, when we examine the wider education sector as a whole we identify that there are some existing studies on the impact of COVID-19 on teaching and education which have been undertaken (Dhawan, 2020; Hussein et al, 2020; Mukhtar et al, 2020 and Nambiar, 2020). However, since the emergence of COVID-19 in the U.K there has been no detailed examination of how it affected the area of training within policing. What literature does exist within policing has focused on academies training new recruits (White et al, 2021), or is unempirical in nature (Fuchs, 2021). Instead, research has focused on overall crime rates which have been examined in the United States (Boman and Gallupe, 2020), Australia (Payne et al, 2020) and the United Kingdom, and identified that crime rates reduced significantly (Halford et al, 2020). This has been observed across a range of crime forms including organized crime, human trafficking and sexual exploitation (Djordjević and Dobovšek, 2020), homicide, kidnapping and extortion (Balmori, Hoehn-Velasco and Silverio-Murillo, 2020), cyber-crime and fraud (Muhammad et al, 2020), hate crime (Gover et al, 2020), robbery and shoplifting (Campedelli, 2020; Abrams, 2020; Ashby, 2020).

Aims of the Study

From our review of existing literature we have established that there is yet to be any examination of the impact of the COVID-19 pandemic and its impact on police service training. This study seeks to address this gap in the literature through a structured approach to examining three questions (1) How did police services in the United Kingdom adapted delivery of training and education during the COVID-19 pandemic? (2) What was the impact of the adaptations? For example, what worked and what did not? (3) What can be done in preparedness for future significant interruptions in police training and education? For example, a further global pandemic

Data and Methods

Police services were approached directly to address the first research question: How did they adapt delivery of training and education during the COVID-19 pandemic? To obtain this data Freedom of Information requests (FOI) were submitted to all U.K police services as other methods (survey and interviews of lead trainers) failed in their attempt to identify suitable personnel through a direct

approach to police services. There is also presently no openly accessible, published information regarding the impact of COVID-19 on the delivery of training within UK police services. The Freedom of Information Act 2000, provides somewhat of a workaround to these problems as it enables the public access to information held by public authorities, including police services. In total, 45 police services were issued an FOI request, made up of the 43 police services in the U.K, the Ministry of Defense Police, and the Ports Policing Authority. In total, 21 police services provided a response (47%). A complete list of the questions posed to each police service in the U.K and the response rates are outlined in appendix table 1.

The FOI responses were analysed using a manual, deductive approach. Each of the 45 police services were listed vertically on the 1st column of a Microsoft Excel data sheet, with a further 17 columns horizontally for each question (1-17). The manual coding then identified the data within the FOI that corresponded to a question category. As a result, the excel data sheet enabled complete collation of each police services' response to every individual question together in a single worksheet. Further coding was then conducted upon each of the 17 questions recorded. This process identified sub categories present in various responses for each question. The volume of each response from each police service that fell within the sub-category was then recorded to provide the final results.

The second data collection method used was in the form of a survey of police officers employed in the United Kingdom. In total, 99 police officers completed the survey. This second method was an opportunity to get richer detail to support the FOI data. The study used a standardized survey approach in order to enable "*the collection of information from a sample of individuals through their responses to questions*" (Check & Schutt, 2012). Interviews were considered, however, it was felt that this approach was not suitable. Practicing police officers and staff were accessed in each force via evidence based policing (EBP) champions who are coordinated by the U.K College of Policing (College of Policing, 2018). The evidence based champions coordinator shared the survey link amongst police practitioners in the U.K police services. To facilitate and host the survey a third party hosting site was used which is now an accepted, common approach to managing such surveys (Ponto, 2015). It also enabled the ease and simplicity required to better foster participant engagement and completion.

Survey questions fell into five main categories. Firstly, demographic data, questions that enabled an exploration of respondent capability (previous online learning experience, guidance provided, capability of equipment), questions regarding training methods used (Lectures, Videos, Readings, Activities, Case Study, and Simulation), and questions exploring the nature of the training content (Mandatory, Refresher, and New Content). Finally, questions relating to the engagement of participants helped interpret whether or not pedagogic or andragogic styles may have affected learning effectiveness.

Again, coding was conducted using Microsoft Excel. There were only 15 valid responses to the open-ended questions which allowed manual analysis of the responses which aligned them to the aforementioned survey categories (capability, training methods used, engagement and effectiveness). To display the findings descriptive approaches are utilised as the primary target audiences for this article are practitioners, senior police leaders and policy makers. It has been suggested that the use of descriptive approaches are more effective at improving understanding (Conner and Johnson, 2017), and therefore have a greater potential for impact.

Results - Police Service Responses

Adaptations to Police Training

This section outlines the adaptations made by police services to enable them to continue training staff throughout the pandemic. We identified that a variety of operational responses were enacted. The most common adaptation was for training to continue supported by a risk assessment (n=10). In 1 case this was underpinned with student COVID-19 pre-screen testing. Some police services opted to adapt delivery by splitting training between online and face to face teaching (n=6). A number adapted by reducing class sizes to enable them to continue training, but adhere to social distancing rules (n=6). In addition to changes in the preparation and method of delivery a number of services adapted their lesson planning. This was achieved through a combination of amending lesson content (n=2), extending training days (n=1) or reducing lesson duration (n=1). In contrast, some services (n=4) continued all training in full with no adaptations at all.

Cancellations and Transition to Online Learning

This section outlines which themed areas of police training were either cancelled or moved online. Only a single responding force acknowledged that all training was cancelled during the entirety of the pandemic. Instead, as alluded to above, police services adapted their approaches by switching to online learning. Table 1. outlines the thematic areas within which teaching was either cancelled or transferred to online delivery. Of the 21 responding forces all conducted a form of training in the online environment. Courses that were the largest in volume and scope across the U.K were impacted most severely, e.g. essential training for new police officers, investigators and courses related to officer safety. The main areas of training and education that had to be cancelled completely included those that required high levels of close proximity, hands on, and physical interaction between participants and instructors. For example, officer safety training (commonly known as defensive tactics), public order, police driving courses and first aid.

The data further revealed that services made an admirable attempt to retain teaching that was high in volume and received by large volumes of officers, through transitioning to online delivery. This included areas such as leadership and management training, training of new recruits, and detective and investigation courses. Conversely, courses such as officer safety training, that do not lend themselves well to online delivery, had a very low transition rate, with only 1 of the 9 services that identified this area as being affected opting to transition the teaching to an online platform.

Table 2. further illustrates how the transition to online and digital learning delivery was achieved, highlighting that a substantial proportion of services opted for online, live sessions (n=7, 33%), closely followed by a blended style of mediums (n=6, 29%). Of the 18 forces that indicated they adopted online training there was considerable variety in the platforms utilized. Full details of the platforms can be seen in appendix table 2. From this analysis we can see that some police services adopted a multitude of platforms bringing together live delivery through services such as MS Teams (n=17), Skype (n=8), and Zoom (n=2). Some services also used hosting platforms to aid this approach such as Moodle (n=2) and Blackboard (n=1). This variety suggests that despite advances in procurement, standardization and efforts to drive consistency, primarily led by the

Police Digital Service, there remains considerable differences in the adoption and use of technology within policing.

Training Area Cancelled	Number of Police Services	Training Area Transferred Online	Number of Police Services
Withheld or Undisclosed	23	Withheld or Undisclosed	22
Officer Personal Safety	8	New Police Officer Recruitment (IPLDP)	12
Other System Use (Niche/Connect/Webstorm)	7	Detective and Investigation	7
Leadership and Management	6	Other System Use (Niche/Connect/Webstorm)	5
Public Order	6	Leadership and Management	5
Detective and Investigation	6	First Aid	2
Driving	6	Sergeants Development	2
First Aid	5	Firearms	2
Chemical, Biological, Radioactive and Nuclear (CBRN) Incidents	4	Operational Command	2
Sergeants Development	4	Control Room Operation	2
Community Policing	4	None	2
Assessor	3	Disclosure	2
Police National Computer (PNC)	3	New Police Community Support Officer	2
Inspector Development	3	Custody	2
Firearms	3	Health and Safety	2
New Police Officer Recruitment (IPLDP)	3	Officer Personal Safety	1
Taser	2	Driving	1
Ethics	2	Police National Computer (PNC)	1
Property and Evidence Management	2	Inspector Development	1
Fire Marshall and Warden	2	Ethics	1
Dog Handling	2	Fire Marshall and Warden	1
Fitness Instructor	2	Safeguarding	1
Operational Command	2	Mental Health	1
Control Room Operation	2	Vulnerability	1
Social Media	2	File Quality	1
Method of Entry	2	Tutor Constable	1
Safeguarding	2	Registered Sex Offender Management	1
Mental Health	1	Home Office Large and Major Incident Enquiry System (HOLMES)	1
		Public Order	0

Table 1. Police training that was either cancelled or transferred online.

Training Methodology Adaptations	Number of Police Services
Delivered Live Online	7
Blended	6
Pre-Recorded and Accessed Online	2
Pure eLearning i.e. NCALT	2
Enhanced Use of Pre-Reading	1

Table 2. How services chose to deliver online training.

Impact on Certification

Where services opted to cancel courses such as officer safety, driving and firearms training that required periodic re-certification, the majority of respondents (n=16, 76%) chose to extend certification in line with guidance provided by the College of Policing. Only a handful of services (n=5) stated that training and re-certification for these vital courses had not been adapted and as such they did not need to extend certification.

Number of Officers Affected

Efforts by this study to ascertain exactly how many police officers were directly affected by the training responses was particularly challenging. It was evident that there was significant reluctance by police services to disclose these figures and as a result this area of examination was impacted heavily by the small volume of disclosures (n=5) provided. Due to this fact the findings in this area must therefore be considered with caution.

Table 3. attempts to outlines the volume of employees by analyzing the data provided by the 5 police services to achieve a percentage estimate of the number of officers per force impacted by the COVID-19 response to police education and training. This shows that a mean proportion of 34% of police officers per force were affected. Although indicative, if this percentile is considered across the number of police officers in the U.K (129,110) as of 31st of March 2020 (Gov.U.K, 2021) then as many as 43,897 police officers may have been impacted. This is on average 1030 police officers, and 410 police staff members per service.

No. of Staff Affected	Present No. of Police Officers	No. Of Police Offers Affected (%)
British Transport Police	2964	2000 (67%)
Leicestershire Constabulary	1979	714 (36%)
Ministry of Defense Police	2594	1320 (51%)
Police Scotland	17431	745 (4%)
South Wales Police	3012	374 (12%)
Mean % of staff affected	N/A	34%

Table. 3. Comparison of Present Number of Police Officers ([Staista.Com](https://www.staista.com)) by Service vs. Those Affected by Changes to Training Delivery

Financial Impact of Adaptations

As a result of the shift to online training there was an unintended positive consequence in the form of significant underspend within training budgets. Although only 22% (n=10) of police services responded to this question, those that did indicated either no financial impact (n=2, 4.4%) or significant underspend (n=8, 17.7%), with police services saving on average £514,000. Services indicated that this saving was predominately achieved through their shift to online or digital platforms.

Results - Practitioner Survey Responses

Response Demographics

In total, 99 officers completed the online survey and a 100% completion rate was achieved. The responses of participants were varied but staff with between 0-5 years of service had the highest response rate (n=22) (22.22%). These were closely followed by those with 5-10 years (n=21) (21.21%), 15 – 20 years (n=16) (16.16%) and 25 years and above (n=16) (16.16%), with staff who had 10 – 15 years (n=12) (12.12%), and 20-25 years-service (n=12) (12.12%), being the lowest response groups. In respect of respondent age, the highest response rate was police staff and officers aged 35-45 years (n=32) (32.32%), followed by those aged 25-35 years (n=30) (30.3%), then those aged 45 years and above (n=24) (24.24%), with the lowest response group being aged under 25 (n=13) (13.13%).

Prior Experience of Online Learning

In an effort to contribute further to the three research aims police officers were asked to provide details of their experiences of police training during the pandemic. To begin with, participants were asked to describe their experience of prior online learning. The responses identified the majority did have prior experience (n=85) (85.86). A small number (n=14) (14.14%) indicated having not used the approach previously. Of the respondents who had experienced online learning previously 58.62% (n=51) indicated their past experience included both theory and practical learning elements. A total of 40.23% (n=35) indicated their past experience was entirely theoretically based with only a single individual having only encountered the method when undertaking practical learning (1.15%).

Guidance and Equipment

In this section we explore the depth of preparation officers were given to support the widespread transition to online learning. To achieve this, survey participants were asked to simply outline if they felt they were provided adequate guidance and equipment by their police service to conduct online learning prior to the transition. In total, one third (n=33, 33.33%) agreed (n=27, 27.27%) or strongly agreed (n=6, 6.06%) with the statement. Approximately one third (n=30, 30.30%) remained neutral and over a third 36.36% (n=36) indicated a negative response i.e. either disagreed (n=28, 28.28%) or strongly disagreed (n=8, 8.08%) that they had received adequate guidance. Respondents shared their views on this area by outlining the impact of the lack of such guidance and the capabilities of the mediums used:

“Technological access needs to be addressed for example, computers can’t use google whiteboard through teams and Constabulary systems can’t access online learning tools like Padlet etc.”

“Further investment in IT pool so that appropriate resources can be booked out by staff to ensure all participants have the optimum equipment to allow online learning to take place effectively”

These responses highlight that guidance on conducting online learning and access to the correct equipment is key as the methods often use technology, software or platforms that users may not be familiar with.

Methods and Styles of Online Training and Their Effectiveness

To explore the various training methods that police services adopted after they transitioned to online learning, this section outlines participant responses regarding the form and style the training took. In doing so we identified they had received a variety of delivery methods including live streaming (n=64, 64.65%), pre-recorded content (n=25, 25.25%) and a self-paced approach (n=10, 10.10%).

In terms of the delivery of the actual content, participants were asked to identify the training style used. The results for this are illustrated in Table 4. where the perceived effectiveness of the methodology is also measured on a scalar of 1-5 (1=lowest, 5=highest). This analysis indicates that whilst being the most heavily utilized approach, staff who received training in the form of lectures, considered this method to be amongst the least effective. The second most frequently used teaching method, use of videos, was perceived as the least helpful for their development.

Method of Training Style	Percentage of Participants who Received the Training Style	Perceived Effectiveness Weighted Scalar Rating (Position)
Lectures	75.76%	2.66 (5)
Videos	77.78%	2.31 (6)
Case study	41.41%	2.89 (4)
Activities	40.40%	3.7 (1)
Readings	38.38%	3.51 (2)
Simulation	6.06%	3.03 (3)
Other	4.04%	2.66 (5)

Table 4 Method of Training Style Received by Police Officers

Training Necessity

To understand the necessity of the training that remained during the pandemic we explored whether that which was delivered was mandatory (i.e. dictated by local or national policy to be periodically conducted), or was a refresher (i.e. non mandatory but deemed locally necessary). The data in Table 5. indicates that although the majority was mandatory (54%,) much of the training delivered online (46%) was refresher training. Irrespective of whether training was a refresher or not, approximately two thirds (n=61, 61.62%) of respondents indicated the training they received online included knowledge and information that was new to them.

Question/Response	Percentage of Responses	
	Yes	No
The course was a refresher course	45.92%	54.08%
The course was a mandatory course	87.88%	12.12%
The course was a new area of learning	61.62%	38.38%

Table 5. Survey Participant Responses regarding course necessity.

Training Consistency

Although not originally an area the study intended to explore, analysis of the qualitative comments provided by participants outlined a number of issues worthy of inclusion regarding the lack of diversity in methods used, and absence of consistency in the training content they received. Views on these matters were divided. One officer for example requested less variation in teaching methods:

“NCALT, KALLIDUS, Sherlock, emails, stick to one form and destination for on line learning”,

Whereas others indicated the desire for a shift towards more diverse, interactive and collaborative online approaches:

“There needs to be more engaging scenario based online learning rather than reading”

“More interactive sessions”

“More role-plays, even more discussions, continuous feedback from the students and the lecturers/trainers as they all will be able to provide the valuable feedback”

In addition, several respondents suggested that substantial inconsistency regarding content of the training was a potential issues for the police, especially in relation to ‘in house’ teaching material;

“The learning and development opportunities should be standardised throughout the Police forces in the U.K. Having recently transferred forces, it has become apparent that many of the courses and learning and development inputs that I have completed are either totally different to my current force - even different policies and procedures in dealing with the same matter. Also that some aren't even recognized or even heard of in my new force. There should be one standard learning hub for all forces”

“More regulated formal qualifications and courses from external sources. There is too much in-house training which shows a lack of consistency throughout different forces hindering mutual aid responses”

Role of the Trainer

A further area worthy of mention that was identified from the survey free text related to the role of the trainer and how this can impact the delivery of online learning. Comments indicated the trainers and instructors delivering the material may themselves have been unfamiliar with the full functionality of many of the mediums used, and as such, unable to fully maximize their interactive functions such as in built ‘breakout rooms’, which can be used to underpin group activities for example:

“People need to learn how to present. Just presenting your screen and a bunch of power points is NOT engaging. Get rid of the PowerPoints and be more creative”

“Both staff delivering and receiving the training need to be fully committed to it”

“Trainers need to increase creativity to increase engagement”

Impact on Engagement and Motivation to Learn

The second aim of the study was to understand what the impact of the adaptations in police training were during the pandemic. This study has shown that the engagement and motivation of learners is an area that was significantly impacted. Although the majority (58%) felt that the online learning environment was engaging and motivated them to learn, an undesirable proportion (42%) indicated they did not consider the approach was an effective way to learn and reported low levels of engagement. The low levels of engagement and motivation articulated were also supported by the qualitative comments which outlined a general consensus of discontent amongst those surveyed. Here, we highlight this feedback in addition to recommendations to improve student engagement and motivation to learn provided by participants:

“It should be abandoned. It is teaching on the cheap. “we have told you” so we’ve absolved ourselves of responsibility, yet what you have been told is not proper training, is not memorable, and does not follow well known and understood training methods”

“Should only be used for certain topics not across the board. It may be easier to deliver to a large audience but easy does not mean right. Online training for new recruits has been particularly poor and really detrimental on attitude/behavior and performance once they land in divisions”

“Don't rely on online learning use it to supplement the training”

“Link in with academia and collaborate to provide evidence based input - to add depth to the generalist and repetitive police training / style”

Discussion

This study has made significant progress toward answering its main research questions. As a result, we can now say that a majority of the police services who responded to the study reverted to the use of power-point lectures and increased reliance on existing systems such as NCALT to enable police training to continue. This response is understandable in the context of the scale of the challenge faced. It does however indicate a clear absence of any contingency plans that were in place for the delivery of training during prolonged crises.

Impact of COVID-19 on Police Training

In respect of research question 2, what was the impact of the adaptations? It has become clear that many police services were unprepared for such a large-scale shift in training delivery. There was an absence of suitable technology, software, instructors and students that were adequately prepared for the transition. A further finding of note contradicts the literature that has analysed online learning during the pandemic (Dhawan, 2020; Hussein et al, 2020; Mukhtar et al, 2020 and Nambiar, 2020) that broadly indicated recipients respond positively to online learning delivery. Possible reasons for this contrasting position could be the reliance on systems such as

NCALT that has previously been identified as negatively affecting the engagement and motivation of police officers, or the use of a teacher led, pedagogic styled which limited reflective practice.

This study also identified there was significant inconsistency in the technology and the content material used to train police officers. Evolutions in policing such as the creation of the College of Policing and the Police Digital Service were established to minimize such issues. The COVID-19 pandemic appears to have exposed two potential areas where inconsistency remains (digital and online learning platforms and localized teaching material). Such inconsistency can potentially create disparity in levels of capability between police services, creating a ‘postcode’ lottery environment whereby levels of service vary dependent on training received. The impact of this should not be understated.

For example, His Majesty’s Inspectorate of Constabulary and Fire & Rescue Services ([HMICFRS, 2022a](#)) independently assesses the effectiveness and efficiency of police forces and fire & rescue services in England and Wales. In doing so they grade the services delivered on a range of inadequate to outstanding across a wide range of police functions including their response to crime investigation, prevention and high risk areas such as organized crime. Their methodology for achieving this is robust and includes the examination of training delivered to a police services officers and staff ([HMICFRS, 2022b](#)) which can have an impact on the organisations grading. Should a police service be graded as inadequate or requiring improvement, this can have a significant impact on the confidence of the community they serve as citizens lose confidence that the police can address everyday problems and retain social order ([Jackson et al, 2009](#)). As a result, the fear of crime may also increase.

In addition to the inconsistency, it is clear that due to the rapid shift to online learning, police services may not have been able to effectively prioritise the training needs of the force. For example, it is suggested services focused on ‘*what could be done*’. This was at the expense of ‘*what should be done*’. This is different to a pre-pandemic training environment because in the absence of social distancing conditions, such difficult decisions rarely needed to be made. Although training units always had budgets to work within, their allocation was prioritized so that police services ensured training that ‘*should be done*’, was done i.e. that which was mandatory (dictated by local or national policy to be periodically conducted, and/or required certification/re-certification), which predominately included officer safety training, Taser and firearms use for

example, or that which addressed significant emerging risks and threats. Such areas of training are those that research indicates a failure to deliver effectively may impact confidence and legitimacy, as a result of the misuse of force for example.

However, during the pandemic, the decision making driver that underpinned prioritization was no longer budgetary, or prioritized based on the risk and threat of the emerging issue. Instead, we argue that it became the necessity to prevent the spread of covid-19 and ensure social distancing measures could be retained. This is of course, entirely natural and understandable. It did however, create the attitude that is identified by survey participants that police services prioritized '*what could be done*', at the expense of '*what should be done*'. We believe that better planning and inclusion of some of the more innovate ways of training we describe subsequently in this section, may have prevented this shift in decision making.

Theoretical Implications for Police Training

In addition to the practical implications identified, the findings also help us consider the adaptations within a theoretical context. The use of an andragogic and pedagogic theoretical framework to examine police training and education has been used previously (Vodde, 2008) and identified that an andragogic methodology is more effective for training police recruits (Vodde, 2008). Responses to the survey in this study indicate the primary approach to training during the pandemic was pedagogic in nature, in line with other studies of workplace learning (Knowles, 2020) and particularly that within the wider policing literature (Vodde, 2008). In terms of the pedagogic methods used it is clear that police services relied very heavily on instructor directed visual content, and that this was delivered using video and power-point presentations. Because of this we should not be overly surprised by the low levels of engagement identified as Knowles (2020) indicates that staff in the workplace are more likely to fully engage with training, education and development if delivered through an andragogic approach that allows space for reflection and application. This is a suggestion that has not changed dramatically in several decades, for example, Welton and Mezirow (1995) have previously outlined that workplace learning must embrace the experiences of the recipients which is most successfully achieved through the andragogic process of reflection (Marsick and Watkins, 1994). Parker (2011) has also suggested that the favored approach of staff within the police is by application of knowledge, but although activity based learning and simulation (both highly andragogic methods) were among the most favored

approaches outlined by survey respondents, they were rarely used. Vodde (2008) has suggested, although pedagogic approaches to police training may have previously had some value, the complexity of modern policing requires more reflective and thought provoking approaches to be effective.

Improving Engagement and Motivation to Learn

To improve employee engagement and effectiveness in training and education within policing we argue that there needs to be an acceptance that the reliance on front loaded, instructor or computer fed material is limited in effectiveness. Moving forward, a more andragogic approach could be achieved through a blended package of investment in online simulations, gamified learning programs and virtual reality. This could be supported by instructor facilitated, or self-directed, online opportunities from Massive Open Online Courses (MOOCs) provided by higher education institutions such as the Open University, and police training packages offered by CEPOL, Europol, INTERPOL, OSCE, EFUS and AEPC. This would enable retention of the flexibility that survey participants indicated was a welcomed adaptation and would provide advanced capability in blended working environments, as experienced during pandemic situations when working from home is mandated. We suggest how these can be incorporated into either police training as a whole, or during crises periods in the next section regarding recommendations for future preparedness.

Two positive implications identified in the study are police services and their staff becoming more digitally capable and underspends within training budgets. This creates an opportunity to consider investment in more effective online training delivery platforms. We propose for example, the digital and online approaches outlined in the literature review, such as online simulations, gamified learning programs and virtual reality, are existing technologies that would provide solutions for increasing engagement and knowledge retention when compared with the existing police approaches to online learning we have identified in this study. Additionally, solutions from the Virtual Reality domain would enable mandatory training impacted by social distancing conditions such as officer safety training, Taser and firearms to potentially continue on an uninterrupted scale.

Recommendations for Future Preparedness

Finally, we consider the policy implications of the findings by considering the final aim of the study, how can the police service develop preparedness for future significant interruptions in police training and education? We provide a total of 6 recommendations.

First, we recommend that the police service adopts a risk based approach to prioritizing training by creating a list of essential, mandatory courses for retaining during crises periods. The rationale for creating this list is that it is designed to prevent reoccurrence of a number of key decisions taken during the pandemic which we believe are likely to have had as yet, unidentified and unintended consequences. For example, the choice to extend certification in some instances, but maintain refresher training in others created an oxymoron. If accreditation could be easily extended in areas of high value police training, but at the same time huge volumes of refresher training was being mandated but delivered through ineffective means, one has to question, what the necessity or value added by this refresher training was? We believe a more appropriate response would have been to ensure the high value training continued and refresher training was delayed, as described by the aforementioned prioritization process.

A red, amber, green approach would be sufficient. Here, we provide an example of how a blended learning framework can be categorized to aid this process of prioritization:

- a. **Red courses:** Training that should remain during times of crises, such as a future pandemic.

As we described in the previous section, we believe such training could be retained and potentially even improve engagement by utilising online training simulations, gamified learning programs and virtual reality environments.

- b. **Amber Courses:** Training which can be heavily adapted, such as being transitioned entirely online, or those for which extending certification is appropriate with minimal impact on operational service delivery, confidence and legitimacy.

Such courses can be delivered online using some of the existing medians and styles we have outlined in the results. However, we recommend that this training takes advantage of the array of training packages provided by the CoP Knowledge Hub, other U.K governmental institutes, and international provides such as CEPOL, Europol, INTERPOL, OSCE, EFUS and AEPC, instead of bespoke localized packages. This would also serve to enable greater consistency but could retain the instructor facilitation and direction.

- c. **Green Courses:** Training which can be self-directed, postponed or if required, cancelled completely with limited or no short or medium term impact.

If services wished to enable officers to continue their professional development during periods of crises they could signpost them to the MOOCs provided by higher education institutions such as the Open University, and police training packages offered by the CoP and other international training institutes highlighted in point b. which could be done in a remote capacity at a self-directed pace. This would of course lack the help and guidance of an instructor but may be sufficient for low risk areas of training.

Second, we then recommend that to enable the delivery of the above, police services allocate sufficient funds to enable investment in new training technology (simulation/game based learning etc.) that enables them to retain delivery of red training courses. The nature of these investments will of course be dictated by the training the police services decide they require to be retained, and the products available on the open market. This process alone could also inform development of important medians for delivering such training if a gap in available products is identified.

Third, we recommend that the list is used to implement the use of the identified mediums. This should be supported by adequate training and guidance to instructors and students alike which was identified as being absent by many participants. As part of the implementation process we advise an objective evaluation of each is conducted to assess their effectiveness and efficiency. Dependent on their conclusions, such evaluations may provide justification for

incorporating such methods of training into none crisis periods, potentially resulting in their standard use within certain police training areas.

As a minimum, we advise that regardless of formal evaluation, police services should seek to develop contingency plans for events that will have a large-scale impact on capability to deliver training (such as a recurrence of a pandemic), with a key emphasis on transitioning red training to the identified and purchased medians.

Now that existing research has produced a body of studies that are able to describe the impact of a pandemic environment on policing, we recommend that police services develop a package of training that includes these findings. This should include the impact on police demand such as recorded crime, particularly cyber-crime, other reported incidents, roads policing and anti-social behavior and other forms of disorder. It should also include details of changes to victimization. Doing so will enable officers to be better prepared at the outset of a future reoccurrence so that they can better respond.

Finally, we recommend that police services should include in their contingency planning a living assessment that proactively seeks to identify similar changes in demand in future crises periods. This will enable services to produce training products that can be delivered rapidly ‘mid-crisis’ to inform their officers of changes to the policing landscape, and upskill them in areas of rising crime or demand, serving to maintain their effectiveness and efficiency in service delivery.

To conclude, it is important to note this study has some significant limitations. Firstly, a number of police services have withheld information requested under the Freedom of Information Act under exemptions within Section 31 of the Act, primarily related to information not being easily accessible to retrieve. The impact of this means that the deductions drawn may not accurately reflect the situation experienced across all police services. Secondly, the number of survey respondents was relatively low when compared to the overall number of police officers in the U.K. As a result, both sources of information and interpretations drawn should be viewed as emerging trends, as opposed to being considered comprehensively representative. That said, this

study is replicable and in order to support these emerging findings further research is recommended to reach an increased representative level to ensure the findings remain consistent or to identify other, yet unidentified issues and themes.

Funding

The authors confirm that no funding or grants have been received to support this study.

Ethical Procedure

The research meets all applicable standards with regard to the ethics of experimentation and research integrity, and the paper has been submitted following due ethical procedure, and there is no duplicate publication, fraud, plagiarism, or concerns about any of the included forms of experimentation.

Informed Consent

Consent from all survey participants was gathered prior to completion of the survey and with full knowledge the data would be used for academic publication purposes. During the conduct of this study, no identifiable personal data has been obtained. As such, no identifying details (names, dates of birth, identity numbers, biometrical characteristics (such as facial features, fingerprint, writing style, voice pattern, DNA or other distinguishing characteristic) and other information) have been examined or utilized and are not contained within the study. As such, under these conditions further consent was not required consent as the submission does not include any identifiable data, and, or images that may identify any person. In addition, to affirm this ethical conduct of the study was assessed and confirm prior to conduct and consent to publish has been agreed by the data provider.

Conflicts of Interest

As the author of this paper, I can confirm I have no financial or personal relationship with other people or organizations that could inappropriately influence or bias the content of the paper.

Data Availability

Data generated at a central, large-scale facility, available upon request. Raw data were generated at Rabdan Academy. Derived data supporting the findings of this study are available from the corresponding author [EH] on request.

Appendix 1: Tables and Figures

Appendix Table 1. List of freedom of information questions

Freedom of Information Request Question	Response Rate % (No. of Services)
1. Generally, how did your organisation respond to delivering training and learning and development as a result of the guidelines regarding safe working during the COVID-19 pandemic	44% (20)
2. Please list all training and learning and development that you were scheduled to ordinarily deliver to police officers and staff that were completely cancelled as a result of the guidelines regarding safe working during the COVID-19 pandemic (please include all courses i.e. from recruit training to detective training)	49% (22) 51% (23)
3. Please list the courses that you ordinarily deliver to police officers and staff that continued, but were moved to an online delivery as a result of the guidelines regarding safe working during the COVID-19 pandemic (please include all courses i.e. from recruit training to detective training)	27% (12)
4. Please list what mandatory (including refreshers) courses, where cancelled i.e. defensive tactics training, police fitness tests, firearms training	9% (4)
5. Approximately how many police staff does this affect?	11% (4)
6. Approximately how many police officers does this affect?	47% (21)
7. For cancelled mandatory courses, what was the organisations response to certification i.e. extended, allowed to expire etc.	47% (21) 47% (21)
8. Did you use any alternate approach to training and learning and development?	51% (23)
9. If, so, what approach was used?	51% (23)
10. What online technology did you use to deliver online training and learning and development i.e. MS Teams, Zoom	53% (24)
11. Did your organisation have the requisite capability to deliver alternate methods of training and learning and development in place prior to the pandemic?	31% (14)
12. If not, is it now in place?	47% (21)
13. Did the impact on police training, education and development have an economic impact on your organisation, either positive or negative? i.e. it may have saved revenue for example.	22% (10) 40% (18)
14. Did your organisation increase their use of existing police eLearning? i.e. NCALT	29% (13)
15. If there was an impact, approximately what was the financial cost of the impact?	
16. How long do you anticipate it will take for you to complete the backlog of training identified?	
17. Where there any other consequences on other areas of the organisation as a result of the impact on police training, education and development? i.e. postponed recruitment for example	

Appendix Table. 2 Breakdown of the software platforms used by police services to deliver online training during the pandemic.

Digital Delivery Platform	Number of Police Services
Withheld or Undisclosed	22
Microsoft (MS) Teams	17
Skype	8
Moodle	2
Blackboard	1
Adobe Connect	1
Google Classroom	1
Contasia Video	1
Cisco Jabber	1
NCALT	4
Zoom	2
Lync	1
Microsoft (MS) Office	1
Pronopto	1
Cognito	1
Not Applicable	1

References

- Abrams, D. S. (2021). COVID and Crime: An early empirical look. *Journal of Public Economics*, 194, 104344. <https://doi.org/10.1016/j.jpubeco.2020.104344> Accessed on June 23rd 2021.
- Adams, A., Hart, J., Beavers, S., & Ryan, A. (2017). (rep.). Game-based learning for police training in child interviewing.
- Adams, A., Hart, J., Iacovides, I., Beavers, S., Oliveira, M., & Magroudi, M. (2019). Co-created evaluation: Identifying how games support police learning. *International Journal of Human-Computer Studies*, 132, 34–44. <https://doi.org/10.1016/j.ijhcs.2019.03.009> Accessed on June 23rd 2021.
- Ashby, M. P. (2020). Initial evidence on the relationship between the coronavirus pandemic and crime in the United States. *Crime Science*, 9(1). <https://doi.org/10.1186/s40163-020-00117-6> Accessed on June 23rd 2021.
- Balmori de la Miyar, J. R., Hoehn-Velasco, L., & Silverio-Murillo, A. (2021). Druglords Don't stay at home: COVID-19 pandemic and crime patterns in Mexico City. *Journal of Criminal Justice*, 72, 101745. <https://doi.org/10.1016/j.jcrimjus.2020.101745> Accessed on June 23rd 2021.
- Boman, J. H., & Gallupe, O. (2020). Has COVID-19 Changed Crime? Crime rates in the United States during the pandemic. *American Journal of Criminal Justice*, 45(4), 537–545. <https://doi.org/10.1007/s12103-020-09551-3> Accessed on June 23rd 2021.
- Buckley, R., & Caple, J. (2009). *The theory and practice of training: 6th ed.* Kogan Page.
- Campedelli, G. M., Aziani, A., & Favarin, S. (2020). Exploring the immediate effects of Covid-19 containment policies ON Crime: An empirical analysis of the Short-Term aftermath in Los Angeles. *American Journal of Criminal Justice*. <https://doi.org/10.1007/s12103-020-09578-6> Accessed on June 23rd 2021.
- Chairiyani, R., & Kusumajati, D. (2021). The effect of online Learning effectiveness against student achievement MOTIVATION (case study of online learning student At Bina Nusantara University). 2021 3rd Asia Pacific Information Technology Conference. <https://doi.org/10.1145/3449365.3449387> Accessed on June 23rd 2021.
- Check J., & Schutt R. K. (2012) Survey research. In: J. Check, R. K. Schutt., editors. *Research methods in education*. Thousand Oaks, CA: Sage Publications; 2012. pp. 159–185

- Clark, R. C., & Mayer, R. E. (2016). *E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning*. Wiley.
- College of Policing (2022) Police Education Qualifications Framework. Accessed online. Available at: <https://www.college.police.uk/career-learning/policing-education-qualifications-framework-peqf>
- Conner, B., & Johnson, E. (2017). Descriptive statistics: Use these tools to analyze data vital to practice-improvement projects. *American Nurse Today*, 12(11), 52+. <https://link.gale.com/apps/doc/A516196858/AONE?u=anon~8ed77f9f&sid=googleScholar&xid=67eedb3> Accessed on November 23rd 2021.
- de Laat, M., & Broer, W. (2004). Cops for cops. *Knowledge Networks: Innovation through Communities of Practice.*, 58–69. <https://doi.org/10.4018/978-1-59140-200-8.ch006> Accessed on June 23rd 2021.
- Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018> Accessed on June 23rd 2021.
- Djordjević, S., & Dobovšek, B. (2020). Organised crime in Western Balkans six at the onset of coronavirus. *International Journal of Sociology and Social Policy*, 40(9/10), 807–820. <https://doi.org/10.1108/ijssp-06-2020-0229> Accessed on June 23rd 2021.
- Dochy, F., & Billett, S. (2011). *Workplace Curriculum: Practice and Propositions*. In *Theories of learning for the workplace: Building blocks for training and professional development programs*. essay, Routledge.
- Fuchs, M. (2021). Challenges for police training after COVID-19. *European Law Enforcement Research Bulletin*, (SCE 5), tbd. Retrieved from <https://bulletin.cepola.europa.eu/index.php/bulletin/article/view/480>
- Gover, A. R., Harper, S. B., & Langton, L. (2020). Anti-Asian hate crime during the COVID-19 pandemic: Exploring the reproduction of inequality. *American Journal of Criminal Justice*, 45(4), 647–667. <https://doi.org/10.1007/s12103-020-09545-1> Accessed on June 23rd 2021.
- Gunawan, I., Hui, L. K., Ma'sum, M. A., & SU.Kawati, N. N. (2020). Enhancing learning effectiveness by using online learning management system. 2020 6th International

- Conference on Education and Technology (ICET).
<https://doi.org/10.1109/icet51153.2020.9276553> Accessed on June 23rd 2021.
- Halford, E., Dixon, A., Farrell, G., Malleson, N., & Tilley, N. (2020). Crime and coronavirus: Social distancing, lockdown and the mobility elasticity of crime.
<https://doi.org/10.31235/osf.io/4qzca> Accessed on June 23rd 2021.
- His Majesty's Government (2022) Entry Routes. Accessed Online. Available at:
<https://www.joiningthepolice.co.uk/application-process/ways-in-to-policing>
- His Majesty's Inspectorate of Constabulary's Fire and Rescue Services (2022a) HMICFRS.
 Accessed Online. Available at: <https://www.justiceinspectors.gov.uk/hmicfrs/>
- His Majesty's Inspectorate of Constabulary's Fire and Rescue Services (2022B) HMICFRS: How we inspect fire and rescue services. Accessed Online. Available at:
<https://www.justiceinspectors.gov.uk/hmicfrs/fire-and-rescue-services/how-we-inspect-fire-and-rescue-services/>
- Honess, R. (2016). (publication). The mandatory delivery of ongoing training within the police service of England and Wales and its relationship to the andragogical principle of self-motivation. Retrieved from <https://www.canterbury.ac.UK/science-engineering-and-social-sciences/law-policing-and-social-sciences/canterbury-centre-for-police-research/docs/Mandatory-police-training-and-motivation=MSc-Operational-Report-Richard-Honess.pdf> Accessed on June 23rd 2021.
- Honess, R., Clarke, S., & Jones, G. (2021). Using Technology to Improve Assessment Facilitation on a Policing Apprenticeship Programme: From COVID-19 Contingency to Best Practice. *Policing: A Journal of Policy and Practice*.
- Hussein, E., Daoud, S., Alrabaiah, H., & Badawi, R (2020) Exploring undergraduate students' attitudes towards emergency online learning during COVID-19: A case from the UAE, *Children and Youth Services Review*, Volume 119,105699,
<https://doi.org/10.1016/j.childyouth.2020.105699> Accessed on June 23rd 2021.
- Jackson, J., Bradford, B., Hohl, K., & Farrall, S. (2009). Does the fear of crime erode public confidence in policing?. *Policing: a journal of policy and practice*, 3(1), 100-111.
- Kase, C., Osilla, K., Seelam, R., Woodbridge, M., & Stein, B. (2016). A preliminary evaluation of interactive video simulation training for campus law enforcement in California.
<https://doi.org/10.7249/rr1389> Accessed on June 23rd 2021.

- Knowles, M. S., Holton, E. F., Swanson, R. A., & Robinson, P. A. (2020). *The adult learner: The definitive classic in adult education and human resource development*. Routledge.
- Ma, H., Yao, J., & Liu, L. (2017). Research on the correlation between learning effectiveness and online learning behavior based on online education scene. *Creative Education*, 08(13), 2187–2198. <https://doi.org/10.4236/ce.2017.813149> Accessed on June 23rd 2021.
- Marinoni, G., Van't Land, H., & Jensen, T. (2020). The impact of Covid-19 on higher education around the world. IAU Global Survey Report.
- Marler, T., & Straus, S. (n.d.). Simulation-based training: Use of virtual environments in diverse contexts. RAND Corporation. <https://www.rand.org/well-being/justice-policy/projects/simulation-based-training.html>.
- Marsick, V. J., & Watkins, K. E. (1994). The learning organization: An integrative vision for HRD. *Human Resource Development Quarterly*, 5(4), 353–360. <https://doi.org/10.1002/hrdq.3920050406> Accessed on June 23rd 2021.
- Meeker, D., Cerully, J., Johnson, M., Lyer, N., Kurz, J., & Scharf, D. (2015). *SimCoach Evaluation: A Virtual Human Intervention to Encourage Service-Member Help-Seeking for Posttraumatic Stress Disorder and Depression*. RAND Corporation. https://www.rand.org/pubs/research_reports/RR505.html. Accessed on June 23rd 2021.
- Mohan, D., Farris, C., Fischhoff, B., Rosengart, M. R., Angus, D. C., Yealy, D. M., Wallace, D. J., & Barnato, A. E. (2017). Efficacy of educational video game versus traditional educational apps at improving physician decision making in trauma triage: Randomized controlled trial. *BMJ*. <https://doi.org/10.1136/bmj.j5416> Accessed on June 23rd 2021.
- Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. *Pakistan journal of medical sciences*, 36(COVID19-S4), S27–S31. <https://doi.org/10.12669/pjms.36.COVID19-S4.2785> Accessed on June 23rd 2021.
- Muhammad Kashif, Aziz-Ur-Rehman, Muhammad Kashan Javed, & Pandey, D. (2020). A surge in cyber-crime during Covid-19. *Indonesian Journal of Social and Environmental Issues (IJSEI)*, 1(2), 48–52. <https://doi.org/10.47540/ijsei.v1i2.22> Accessed on June 23rd 2021.
- Nambiar, D (2020) The impact of online learning during COVID-19: students' and teachers' perspective. *The International Journal of Indian Psychology*. Volume 8, Issue 2, April-June, 2020

- O'Rawe, M. (2007). Human rights, transitional societies and police training: legitimating strategies and delegitimizing legacies. . *John's J. Legal Comment.*, 22, 199.)
- Payne, J. L., Morgan, A., & Piquero, A. R. (2020). COVID-19 and social distancing measures in Queensland, Australia, are associated with short-term decreases in recorded violent crime. *Journal of Experimental Criminology*. <https://doi.org/10.1007/s11292-020-09441-y> Accessed on June 23rd 2021.
- Ponto J. (2015). Understanding and Evaluating Survey Research. *Journal of the advanced practitioner in oncology*, 6(2), 168–171. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4601897/> Accessed on November 23rd 2021.
- Purba, L. S. (2020). The effectiveness of The quizizz interactive Quiz media as an online learning evaluation of physics CHEMISTRY 1 to improve student learning outcomes. *Journal of Physics: Conference Series*, 1567, 022039. <https://doi.org/10.1088/1742-6596/1567/2/022039> Accessed on June 23rd 2021.
- Robles, H. J. (1998). *Andragogy, the adult learner and faculty as learners*. University of Seattle.
- Robson, S., & Manacapilli, T. (2014). Enhancing Performance Under Stress Stress Inoculation Training for Battlefield Airmen. *OBJECTIVE ANALYSIS. EFFECTIVE SOLUTIONS*. https://www.rand.org/pubs/research_reports/RR750.html. Accessed on June 23rd 2021.
- Rogoff, B. (1991). *Apprenticeship in thinking cognitive development in social context*. Oxford Univ. Pr.
- Salomon, G. (2003). *Distributed cognitions: Psychological and educational considerations*. Cambridge University Press.
- Solymosi, R., Ashby, M., Kennar, N., Kim, E., Byrom, K., McMillan, A and Liebelt, P (2021) ‘Understanding Changing Demand for Police during the Coronavirus Pandemic’ N8 Policing Research Partnership. Accessed online. Available at: <https://www.n8prp.org.uk/wp-content/uploads/sites/315/2022/01/Reka-Solymosi-Police-Demand-Covid.pdf>
- Vodde, R (2008) *The Efficacy Of An Andragogical Instructional Methodology In Basic Police Training And Education*. PhD Thesis.

Welton, M. R., & Mezirow, J. (1995). Transformation theory of adult learning. In In defense of the lifeworld: Critical perspectives on adult learning. essay, State University of New York Press.