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# Lessons From The Field: Exploring The Impact Of Debriefing Simulation Exercises

Amanda Davies

*School of Policing, Charles Sturt University*

[adavies@csu.edu.au](mailto:adavies@csu.edu.au)

*Knowledge is experience, all else is information*

*Albert Einstein*

**Abstract** The delivery of training for police officers which provides opportunity to practice decision making skills in safe situations is widely acknowledged as problematic. Globally the inclusion in training of simulating policing incidents is growing at a rapid rate as a strategy to develop an officer's preparedness for the volatile, life threatening front line of policing the streets. The NSW Police Simulation Operations Unit utilises the Jonathan Crego designed Hydra simulation framework to provide a situated learning experience. Senior officers undertaking an incident command course (ICC) have opportunity to 'practice' their decision making skills in a major public order incident. This paper reports on a pilot study undertaken to explore amongst other factors, the impact of debriefing the training simulation for officers' professional practice. The study moved beyond the classroom to the street, interviewing ICC participants 3-4 months following training and their return to the field. The results suggest that the critical value of debriefing lies in supporting the participants learning by going beyond 'a job well/not well done' to increase their preparedness for the reality of their professional practice.

## 1. INTRODUCTION

The continually expanding global demand for educational technology to provide sophisticated authentic and situated learning environments that will simulate real world scenarios requires parallel attention to continuous and rigorous research endeavours. One aspect of such research must be to understand the educational value of simulation technology in preparing for real world applications. The wealth of literature devoted to the rationale for developing simulated environments for educational purposes is well documented (see Keppell, Kan, Messer & Bione 2002; Paulsson & Naeve, 2006; Stuckey-Mickell & Tuckey-Danner, 2007). Reeves, Herrington and Oliver (2002) conclude that exposure to learning environments which resemble real life will enhance student learning and it therefore follows that learning contexts and activities should simulate conditions and experiences which allow students to gain contextualised application of their knowledge and understanding. In creating a nexus between (1) the design of the simulation environment and exercise, (2) participants' simulation experience and (3) participants' experience of applying the lessons learnt from simulation exercises into the real world field of their profession valuable insights will be revealed. These findings will inform those who have carriage for the design

and development of simulation technology, the design and implementation of profession specific simulation exercises and provide robust evidence of the educational value of simulation environments for preparing the participants for their world of work.

This paper reports on findings from a pilot research project (1) undertaken to evaluate the use of simulation exercises for developing the decision making capacity of New South Wales senior police officers. The context is implementation of an incident command model in their policing practice. The paper informs on the methodology and data collection methods (2) to be utilised in a wider research project being undertaken to explore how decision making for/by police officers is influenced by learning through simulation exercises<sup>1</sup>.

The most important aspect of this research is that it goes beyond the classroom/training room door to venture into the field and ask participants to look back through that door from a perspective which is informed by their real world experiences following the simulation exercise. The specific area of focus for this paper is the role of the debriefing process following simulation exercises to identifying those aspects of the debriefing session which participants

regard as having a significant impact on decision making in their future professional practice.

## **2. LEARNING CONTEXTS AND PARTICIPANTS**

The NSW Police utilise a Hydra Immersive Simulation System (HYDRA), one of 57 units across the USA, Canada and the United Kingdom providing a high fidelity learning environment which replicates the essential elements of real-world situations within the confines of a relatively controlled environment. HYDRA represents 'a half-way house between the decontextualized artificiality of a laboratory setting and the sometimes intractable and inaccessible real world setting' (Robson, 2002 cited L. Alison & J. Crego 2008. pp.43). As developed by Jonathan Crego HYDRA (see Crego & Powell 1996; Crego & Spinks 1997 and [www.ktla.com/news/landing/ktla-hydra-lapd-training-computer,0,7968284.story](http://www.ktla.com/news/landing/ktla-hydra-lapd-training-computer,0,7968284.story)). HYDRA allows for a diverse range of training environments and situations. It is the team based application enabling the monitoring of participants in real-time leadership and decision making in serious incidents i.e. Redfern riots<sup>ii</sup>, Cronulla riots<sup>iii</sup> which is the context for this paper. The HYDRA places teams in 'pods', rooms which are equipped with CCCTV monitoring, perimeter microphones, a HYDRA system computer screen, a telephone, a computer keyboard and printer. These pods function as micro worlds (Senger, 1990 cited L Alison & J Crego, 2008. pp.41). The pods are monitored from a control room staffed with subject experts, HYDRA system operators and other personnel required for the particular scenario, for example police radio operators, NSW Police media liaison staff, senior NSW Police staff at the rank of Assistant Commissioner. The HYDRA screen allows for visual footage to be streamed into the pods such as pre-filmed footage of locations, officers reporting information. The printer allows for 'paper' feeds of information such as witness statements, details of train timetables and media releases. The computer is for the teams in the pods to be able to communicate with the 'outside' world (the control room). Communications from the pods may take the form of requests for information, telephone calls to media or other nominated staff, requests for resources at the incident location. The control room staff responds either by way of messages on the computer screen or through answering the phone calls and importantly this is actioned in simulated real-time. If information takes two hours to procure then the control room will allow two hours to elapse before feeding the information back into the pod. All decisions

taken by the teams in the pods are recorded in a decision log with the corresponding rationale for the decision; these are displayed on both the screens in the pods and on the screens in the control room. At all times the staff in the control rooms are able to observe the actions, discussions and decisions of the pod members. The decision logs and communication logs are then available to the exercise facilitators at the time of debriefing the exercise.

An Incident Command Course (ICC) was delivered in May 2009 by the NSW Police Education and Training Command, 17 senior officers participated in the course. Five days of classroom learning was delivered focussing on the application of the Incident Command model during incidents of high risk. The 6th day of the course requires participants to participate as a team member responding to a simulated high risk policing incident in the HYDRA unit. The fundamental concept on which the simulation exercise is built is to provide an opportunity for participants to apply the learning they have received on the Incident Command course in a scenario which is delivered in real time and emulates as closely as possible a real time public order policing incident.

To place the research findings into context a brief explanation of the simulation operation follows. Participants were divided into three teams with a nominated Superintendent taking the role of Forward Commander. These teams remained constant and rotated through three areas of operation delineated by their presence in a HYDRA pod. Team One was initially placed into a plenary room equipped with the HYDRA screen, CCTV screens of the remaining pods and screens showing the decision logs from the pods. The plenary room was designed as observational in nature, allowing the team to observe and consider the decisions made by the teams in Pod Two and Pod Three. Pod Two and Pod Three contained teams of officers responsible for responding to the high risk incident. The teams undertook their designated roles in the Pod for approximately 1 hour followed by a 'hot debrief' (generally 5 minute) handover to the next team to enter that pod. The three teams were rotated through the two pods and the plenary room to provide for a sense of handing over at the end of a shift in real time and to provide opportunity for each team to experience different roles in the management of a public order incident.

From the control room, manned as discussed previously and including stakeholders (i.e. Police Media Unit), areas of resources (i.e. Public Order Riot Squad, Assistant Commissioner, Police Radio - VKG) information and elements were

released into the pods both in response to requests from the teams in the pods and as those initiated by the exercise facilitators as a means of altering the dynamics and complexity of the situation all of which occurred at real time pace. The incidents unfold in real-time moving between ‘slow burn’ tasks i.e. analysis of information fed into the pods and ‘fast burn’ tasks such as television crews arriving at the scene, television interviews with members of the public at the scene, or in the case of public order incidents, the throwing of missiles at police, the arrival of NSW Police Public Order Riot Squad personnel at the location. It is the teams in the pods who control the incident, there are no predetermined courses of action or outcomes, the purpose is to allow the teams to apply their decision making skills for managing a public order incident and manage the consequences of each of those decisions.

The conclusion of the incident is determined by the facilitators of the exercise, generally, the incident unfolds over an 8 hour period. At the conclusion, the teams come together with the exercise facilitators, subject experts, representatives of the resource units (NSW Police Public Order and Riot Squad) and the Assistant Commissioner present for the exercise to participate in a whole of exercise debrief. A foundational principle of Jonathan Crego’s HYDRA simulation system supports the concept that debriefing should occur at the conclusion of an exercise so as to avoid interrupting and or distorting the sense of immersion achieved for participants during the exercise. The ICC exercise under discussion here, adheres to this principle.

### 3. DATA COLLECTION

A data triangulation approach was used in this study to provide more explicit understanding of the participants’ experiences. The rationale for employing both qualitative and quantitative data collection methods is founded on the interpretation of triangulation of data collection by Erzberger and Kelle (2003) which suggests that the use of different methods to investigate may yield a fuller and more complete picture of the phenomenon concerned if brought together. Bergman (2008, p. 32) reiterates this perspective in proffering the notion that combining both qualitative and quantitative data may provide complementary information that illuminates different aspects of what is being studied. Qualitative methods for gathering data do provide the avenue to get the insider’s perspective, the meanings people attached to events providing a holism and richness to understanding of social phenomena. Patton

(2002) captures the core value of qualitative research when discussing the role of qualitative findings as illuminating the people behind the numbers, putting faces on statistics, not to make hearts bleed, though that may occur, but to deepen understanding.

Table 1 displays the number of participants involved in the data collection. The research plan included interviewing the simulation exercise trainer post exercise, as circumstances transpired the trainer was unable to be interviewed within the research project timeframe.

**Table 1:** No of Participants / Data Collection Tool

No of Participants	Pre Simulation Exercise Trainer Interview	Post Simulation Exercise Trainer Interview	Pre Simulation Exercise Participant Survey	Post Simulation Exercise Participant Survey	Post (3months) Simulation Exercise Participant Interview
1	1	9	6	8	

To accommodate the triangulation of data the data collection tools as shown in Table 2 were utilised.

### 4. RESULTS AND INTERPRETATION

The data collected from the surveys and interviews indicated that 100% of respondents agreed that participation in the exercise was a valuable learning experience. The following comments are representative of this feedback:

*“it definitely met my expectations because it was real time, high pressure, an environment where you are mixing in with people where you don’t necessarily know how they work or what they are thinking, it had all the loops and twists of a real life scenario, nothing ever goes by the book and that is how it happens on the street”, “It was definitely about applying the model we had been learning about..I like the environment where you can apply knowledge and not be afraid to make “I enjoy those sorts of experiences because I like the environment where you can make some pretty big decisions and it is not going to affect anyone*

*in real life” “It was a good simulation scenario, for instance the Public Order incident was occurring at two different locations so that multiplied the complexity , a single incident would have tested us, but those two different locations and the mobility for both locations of those incidents and movement was a very good test for understanding our decision making process and management of such a complex incident”.*

A wealth of literature supports the notion that reflection on an event or activity and subsequent analysis is the cornerstone of the experiential learning experience and lifelong learning (Fanning & Gaba, 2007) This experiential learning process is variously described as planning on action; carrying out action, reflection on action and relating what happens back to theory (see for example Gibbs, 1988, Grant & Marsden, 1992, Kolb, 1984).

<b>(1)Pre simulation exercise Trainer interview</b>	The focus here was to understand how the simulation exercise controller designed the exercise; how the objectives are aligned with the practicalities of running the exercise; and expectations of participants’ performance.
<b>(2)Post Simulation Exercise Trainer Interview</b>	The focus of this interview was to explore how a subject matter expert perceived the performance of the key lead officers and their teams in the exercise, whether the aims of the exercise were met and to what extent, and what lessons were learnt which would aid the review of the exercise.
<b>(3)Pre Simulation Exercise Participant Survey</b>	The key focus of this survey which contained both Likert scaled questions ( questions in which answers are given a ranking : Very Strongly Agree, Strongly Agree, Agree, Very Strongly Disagree, Strongly Disagree, Disagree and Not applicable) utilising satisfaction rankings and short answer questions provided data from which to develop an understanding of how participants feel about participating in the simulation exercise, what they expect to gain from the experience, how they perceive it will impact on their future policing practice and their level of preparedness for the exercise.
<b>(4)Post Simulation Exercise Participant Survey</b>	This survey focussed on seeking participants reflections of their experience with undertaking the simulation exercise and the Likert scale and short answer questions required responses on whether the exercise met their expectations, did they consider the scenario realistic, did they feel immersed in the exercise, did the participation impact on their decision making skills, did the exercise clearly link to the learning in the Incident Command Course.
<b>(5)Post (3months) simulation exercise Participant Interview</b>	<p>This interview had three key areas of exploration:</p> <p>A: reflection on whether the exercise met expectations, this was an opportunity to expand on answers from (4) above; whether the learning objectives of the exercise were clearly defined; whether the exercise met the learning objectives; how participants felt about their performance in the exercise; any limitations with the exercise</p> <p>B: the value of the debriefing session to the participants’ learning – their expectations, did it met their needs and how this was achieved, could it be revised/altered</p> <p>C: the impact of the simulation exercise on the participants’ policing practice 3 or 4 months post simulation exercise– are they able to identify how the learning experience from the simulation exercise has impacted on their professional practice, and identification of specific examples</p>
<b>(6) Simulation Exercise Observation field notes</b>	The purpose here was for the researcher to observe the May 9, 2009 simulation operation, meet the participants, operators and subject matter experts to develop an understanding of the HYDRA simulation exercise operation. This knowledge was critical for conducting the interviews to enable both questions and responses to be placed in context and for an understanding of police language for interview transcription.

A key concept here is the reflection on action which is an essential ingredient in the learning process and as suggested by Fanning and Gaba (2007) not everyone is naturally capable of analysing, making sense and assimilating learning experiences on their own particularly those included in highly dynamic team based activities.

In acknowledging this notion, to maximise the benefits from the experiential learning experience which in this study was the simulation exercise, the role of debriefing represented by facilitated or guided reflection becomes paramount. Jonathan Crego emphasises the role of the exercise debrief in linking this to the educational value of a simulation exercise “like all good learning, each simulated event is followed by a thorough debriefing”.

It is the participants’ reflective comments made in the field which provide an insight into the role of the debriefing beyond the training room doors and into the reality of their everyday professional practice.

The key findings which were revealed by this research project in relation to simulation exercise debriefing were as follows:

**Finding 1: Participants in the simulation exercise were prepared to take risks and potentially ‘get it wrong’ because they expected this to be analysed in a debriefing session**

Participants indicated that the simulated environment provided an opportunity to make decisions which would not place lives in danger whilst at the same time afforded a clear indication of the consequences of those decisions. The capability of a simulated environment to allow the opportunity for participants to follow a decision making process and be physically immersed in the environment which poignantly reveals the consequences of those decisions coupled with facilitated debriefing of those decisions afforded the key learning experience for the participants.

*“As the scenarios are often elements of an event or many events it gives you the confidence that with mistakes made you can build on understanding of those in the debrief. The good thing is that it activates prior capabilities but again you have the confidence that mistakes made can be identified and discussed in the debrief”*

*“ if we were to make an error it would not be catastrophic and if we made a decision it gave us*

*an opportunity to reflect in the debrief to consider how we may have done it better”;*“... for learning, I think sometimes mistakes are better than when it all goes to plan”;“...a real time real life scenario that could happen tomorrow.... and put me in a situation where I can make the decisions which I think are right. And if in the long term they are not right, nobody has been hurt.

*“...you get a great deal of learning out of your mistakes, but there is that element of what did I do really well. I want to be able to look back and rather than assess myself on how I went, if it happens to me on the street I want to be able to know that I did that really well so I will use that again, have that clarified and reinforced “ yes you really did a good job in relation to communication or logistics but you need to pick up on command or some other aspect..”.*

**Finding 2: Debrief sessions should extend beyond the bounds of ‘what went right and what went wrong’ and focus on how to apply the lessons learnt**

Without exception the complete participant cohort interviewed agreed that whilst it is important to analyse why specific decisions were made in the simulation and the positive and negative consequences of such actions, there is a more significant concept to be addressed. Following analysis of the decision making process including discussion of those identified as ‘poor/good’, ‘correct/incorrect’ or ‘appropriate/inappropriate’ what is fundamental to the officer when they are in the field faced with making decisions, is understanding how the management of even good decision making could have been improved. The research literature devoted to the use of simulated environments for developing skills generally acknowledges that whilst these educational environments are able to develop skills and capacities, they are not able to completely prepare a participant for all potential situations. It is this acknowledgement that emphasises the importance of reaching beyond what went right and what went wrong (the pass/ fail mentality) and apportion equal focus on identifying alternative decisions/actions (that were not displayed during the simulation exercise) to improve decision making capability for real world

application thereby maximising the potential to build the participants confidence and skill set.

*‘I expected our decisions to be questioned – why did you think that? Why did you do that?.. look at what we could have done differently, could we have done it better, should we have done it differently, this assists me when I making decisions in the field, like I have just done for a large public order incident here’*

*“Debriefing is not a criticism it is a reflection and I think debriefing should go beyond looking at success and failure should be looking at feedback which will assist us in the field”*

*“When I am faced with situations in the field I can refer to the debriefing and use what it was confirmed I did well, and use the suggestions for working the task better.”*

## 5. CONCLUSION

The utilization of simulation for providing real world contexts for educational purposes where it is neither practical nor desirable to provide training opportunities in real world situations indicates ongoing support for stakeholders in the simulation industry. To sustain the role of simulation in the educational arena and to create resilience, continuous, rigorous, relevant research must be undertaken to measure the effectiveness of these educational tools. The opportunity to learn from the field what aspects of simulation exercises is regarded as impacting on participants daily professional practice provides opportunity to revise, adapt and adjust both technical and non technical elements of simulation learning environments.

This research from the policing context affirmed the value of simulation learning environments and provided a conduit by which to inform the wider simulation community of the specific aspects of the debriefing session which influences professional practice. Participants regard the debriefing after simulation exercises as the pivotal connect between the lessons learnt through the simulation and their application of these lessons into real world situations. The important criteria is to (1) recognise that participants are prepared to take risks in the simulated environment for the benefit of

maximising their learning opportunities (2) embed instructional features into the debrief to guide the participant in the transfer of their knowledge and experiential learning experience beyond the exercise into real world application.

## 6. REFERENCES

- Alison, L. & Crego, J. eds (2008) Policing Critical Incidents, Devon, UK: Wilan Publishing
- Bergman, M.M. (2008). *Advances in mixed methods research*. London: Sage Publications.p.32
- Crego J. 1995. *Wisdom’s Way*. Police Review. UK. July. p.25
- Crego, J. & Powell, J. (1996). The Exercising of Critical Decision Makers and their Teams: A Simulation Approach using Digital Video and a Multi-Station Computer Network. Presentation at the Society of Applied Learning Technologies conference. Orlando, USA.
- Crego, J. & Spinks, T. (1997). Critical incident management simulation. In R. Flin, E. Salas, M. Strub, & L. Martin (Eds.), *Decision Making under Stress*. Aldershot: Ashgate
- Erzberger, C. & Kelle, U. (2003). *Making inferences in mixed methods: the rules of integration*. In A. Tashakkori & C. Teddlie (Eds.). *Handbook of mixed methods in social and behavioural research*. (pp. 457-488). Thousand Oaks: Sage Publications.
- Fanning R.M. & Gaba D.M. 2007. *The role of debriefing in simulation based learning*. *Simulation in Healthcare*. Vol.2. No.2 pp.115.
- Gibbs G. 1988. *Learning by Doing: A guide to Teaching and Learning Methods*. Fell. London.
- Grant J. & Marsden P. 1992. *Training senior house officers by service based training*. Joint Conference for Education in Medicine. London

Keppell, M., Kan, K., Messer, L. & Bione, H. (2002). Authentic learning interactions: Myth or reality? *Winds of change in the sea of learning: Charting the course of digital education. Proceedings Ascilite Auckland 2002*.  
<http://ascilite.org.au/conferences/auckland02/proceedings/papers/167.pdf>

Kolb, DA. 1999. *The learning inventory style inventory version 3*. TRG Hay/MCBER Training Resources Group. Boston.

Patton, M. (2002) *Qualitative research and evaluation methods*. Thousand Oaks: Sage Publications.

Paulsson, F. & Naeve, A. (2006). Virtual workshop environment (VWE): A taxonomy and service orientated architecture (SOA) Framework for modularized virtual learning environments (VLE)-applying the learning object concept to the VLE. *International Journal of E-Learning*. 5(1)

Stuckey-Mickell, T.A. & Tuckey-Danner, B.D. (2007). Virtual labs in the online biology course: Student perceptions of effectiveness and usability. *Journal of Online Learning and Teaching*. 3(2).

Reeves, T.C., Herrington, J. & Oliver, R. (2002). Authentic activities and online learning. *Conference Proceedings HERDSA*. 562-567.

[www.ktla.com/news/landing/ktla-hydra-lapd-training-computer,0,7968284.story](http://www.ktla.com/news/landing/ktla-hydra-lapd-training-computer,0,7968284.story)

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<sup>i</sup> The general questions for the wider research project are:(a)What **elements of a simulation** exercise influence the development of decision making skills for real world application?(b)What **professional policing characteristics** are impacted by participation in simulation exercises?(c)Do simulation exercises provide **authentic situated learning** environments which influence the development of decision making skills for policing?

<sup>ii</sup> The Redfern Riots on the evening of Saturday 14 February 2004 was an event in the inner Sydney suburb of Redfern sparked by the death of Thomas 'TJ' Hickey, a 17 year old Indigenous Australian.

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<sup>iii</sup>The 2005 Cronulla riots were a series of racially motivated riots and mob violence originating in Cronulla, New South Wales and spreading, over the next few nights, to additional Sydney suburbs.