

Connections UK 2021

Scenario Writing/Development Workshop

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Introduction by Hiroyasu “Hiro” Akutsu

The legendary Zefra Scenario is over 10 years old and is still very much alive within some areas of US professional military education. Why has the scenario persisted for such a long time? It has been craftily designed, flexibly modified according to the situation, and used effectively. There almost seems to be a “trick” or “secret” behind it.

The wargaming community could at least learn from the lessons learned by Fred Cameron, the founder of the Zefra Scenario, from building that particular scenario. So I asked him to run a workshop on scenario-writing in Connections US in June, but he was unable to do so at that time. I hosted a Game Lab on scenario writing (<https://paxsims.files.wordpress.com/2021/08/connections-us-2021-game-lab-report-1.pdf#page=35>) alone then, hoping to involve him in future Connections conferences.

Fortunately, he has been able to Connections UK 2021, and thus my plan has come to pass. And we were able to add to the team two others who have many years of experience in wargaming: Fred Bowden and Brandon Pincombe from Australia.

I welcome you all and thank you for your participation.

Biographies

Fred Cameron was a civilian analyst with the Canadian Department of National Defence for over 35 years. He has taught wargaming through the U.S. Naval Postgraduate School for 10 years and is a co-author of *The Craft of Wargaming*.

Fred Bowden is the Research Leader for Land Capability Analysis in Defence Science and Technology Group within Australia’s Department of Defence. He has spent a large part of his career analysing complex socio-technical system. This has included more than 20 years of

using wargames as part of analytical campaigns, with the majority of them focused in the land domain.

Brandon Pincombe is Group Leader of Combined Arms Simulation in Land Capability Analysis branch of DST Group in Australia. He has worked as an industrial mathematician, biofluid modeller, communications modeller and in social and behavioural sciences as well as Land Force Problem Scoping and Understanding. Brandon has a keen interest in dimensionalisation and feasible scenario spaces.

Hiroyasu “Hiro” Akutsu is a professor and Chief of the Policy Simulation Division at the National Institute for Defense Studies within the Ministry of Defense in Tokyo. He is an enthusiastic participant of the Connections conferences and still tacking the unsolvable question of which he likes better, wargaming or Connections. Many say he loves both.

The remainder of the workshop consisted of several parts. Immediately following the introduction, there was a short video on the Zefra scenario and lessons that were learned with some follow-up comments. Then the participants broke into four parallel subgroups, with each subgroup using Zoom and [Conceptboard](#).

Zoom provided an opportunity to see and hear the participants. Conceptboard allowed for collaboration among the subgroup participants. The Conceptboard products for the subgroups 1, 2, and 4 were not very extensive and have not been reproduced here; rather there is a text summary of the discussions based on a transcription of the audio files from the Zoom meetings. The Conceptboard from subgroup 3 is more intricate and an image of it is included in this report.

The four subgroups convened at the end of the workshop using Zoom for some closing remarks.

Video: Lessons Learned from Writing the Zefra Scenario by Fred Cameron

There was a short (10 minute) [video on the Zefra scenario](#) and lessons that were learned from it.

Comments by Fred Bowden

There were several amplifying remarks on the video that were intended to promote further discussion once the participants had reconvened in the four subgroups. This included comments to show how the structure of the subgroups had been designed with the intention of continuing discussion of various points raised in the video.

Lessons

- The product from wargaming should be more than what players experience, e.g., lessons for others on the appropriate use of some doctrine, or the pros and cons of some new concept or technology.
- The scenario must be driven by the sponsors’ objective BUT NOT by their desired outcome or their preconceived biases or their idea of what a good scenario would be
- There should be cross-checking between essential questions and scenario events link (see subgroup 2)
 - o How stressing a system leads to a better understanding of the system (see subgroup 2)

- o How the scenario events help you to explore limits of options being considered (see subgroup 2)
- Extraneous material and link to immersion (see subgroup 4)
- Why choose real or fictitious (when is a real-world scenario appropriate, and when is a “alternate-universe” scenario appropriate)

Best Practice

- Analysis plan from the start
 - o When should game builders start thinking about scenario (and analysis)
 - o Don't let the sponsor drive the scenario but rather use the objective to drive the scenario (see subgroups 1 and 3)
- Use of sub teams helps
 - o How keep consistency? – It requires regular meetings
- Back to front
 - o What does the wargame need to explore to achieve the objective – analytical goal (see subgroup 1)

Worst Practice

- Sponsors objective
 - o Not about what they want to see but what you *need* to see to meet analysis targets
 - o It is about what you need to get out of the scenario to deliver to the objective rather than the scenario becoming part of the objective
- Adding elements “just for the fun of it”
 - o Agree needs to link back to the objective – however “fun” might be the objective in the sense that it is important to immerse players (see subgroup 4)
 - o Needs to link back to what you are trying to explore – how does it help identify cause and effect (see subgroup 1)
- Rational behind events in the scenario
 - o Feasibility questions (see subgroup 3)
 - o Does this mean there is a need for a narrative that links all elements of the scenario

Sub-group 1 “Planning for analysis” by Fred Cameron

Attendees: 5-7 participants

Questions 1: From an analysis perspective, what makes a good scenario GOOD, or a bad scenario BAD?

For the specific area of wargaming used for training or education, it is important that the scenario should be consistent with what some players may already know about the setting for the game. If some player happens to know that some aspect of the scenario does not match with the true situation, that player may challenge the validity of the scenario, putting the credibility of the game into question. So the game development team must put the research in so the scenario feels realistic to all of the players. This may rely on SMEs (subject matter experts). You don't want players to come across things in the scenario that "break their world". We must understand that some players who come to the game may have considerable experience with the part of the world in which the scenario is set. We do not want players to "fight the whites": "oh, that would never happen". [The term "fight the whites" is from staff college procedures where the scenario for a problem that has been given to a syndicate is printed on white pages. Pink pages are used for "the DS solution": the solution that the directing staff (DS) have anticipated would be the best solution for the syndicate's problem. So "fight the whites" means arguing that the scenario as described on the white pages is unrealistic or unbelievable. The term "fight the pinks" means challenging the directing staff that their proposed solution is the best one.]

Incorporating cultural differences, especially those that are significantly different from "Western thinking". An example was provided of Sierra Leon during the Ebola outbreak and cultural practices that are alien and perplexing (weird) to Western cultures. There is a need to get advice from people who "worked out there" (in this case West Africa). We should have the best SMEs we can find given limits.

The facilitator mentioned how the Canadian Army used Afghani immigrants in pre-deployment training. They would dress up as if they were in an Afghan village and the soldiers would interact with them as they would in real operations. So the SMEs in this case are real Afghanis. (There might be some bias/misrepresentation as some role players might be introducing myths if they were assigned roles they had not lived when still living in Afghanistan: e.g., city dwellers trying to play the role of farmers.)

The question arose of how to streamline analysis. The facilitator suggested that you should plan for more than you will use. Plan for redundant methods. Then cancel as appropriate to reduce the burden on players. It is easier to drop things from the agenda, than to add more when folks think they will be free of the game. Indeed, by planning for analysis from the beginning of a wargame project, there should be more efficient analysis procedures than if analysis was allowed to be entirely improvised or ad hoc. Similarly, if a wargame had to be repeated because of inadequate data collection, it would hardly be efficient (and hence not "streamlined").

There was further concern about analysis "breaking the immersion" for the players. Are there methods or procedures that can keep the players minds in the game? If immersion is important, e.g., to have training scenarios that run continuously, even 24/7, you may need to have data collectors in critical locations where they can intercept players for interviews/questionnaires just as they are going off shift or taking natural break (for tea/coffee).

One participant asked about issues related to using wargaming to investigate technology innovations. Wargame players can be given a set of future technologies to see how they might be employed. Then the set of technologies could be changed, and the scenario repeated. This would allow for some evaluation of the relative pros and cons of the various technologies.

The facilitator raised one issue of running several iterations of the scenario with different technology components: there can be a “learning effect” amongst the players. Since they will be familiar in subsequent war games with the scenario, having played it already, some of their success may be attributed to having learned something rather than any enhanced capability from the new technology. There are methods to reduce this effect. One is to have player go through the scenario several times so they do become familiar with it, and only then start the comparison between various technologies. A downside is that there will be less spontaneity from the players. There are some other approaches that can be used.

There was a reference to comments from Dr Charlie Peet (on Day 1) about ‘first move’ and ‘last move’ phenomena. A ‘first move’ may be required to let players get familiar with each other or with game mechanisms (so this part of the scenario for some preliminary activity would not be directly driven by sponsor’s objective). The analysis might have to throw out ‘first move’ results since they may not be representative game play later. An alternative method would be to have a “learning scenario” to be played first. This could encourage team building, if players were not drawn from an existing command team. It should also familiarize players with what they will see during the “real scenario”, including aspects like facilitation procedures, analysis and data collection methods, workstation procedures for a computer-supported combat simulation, and so on.

A ‘last-move’ phenomenon is related to players seeing their will be no consequences to a bizarre move at the end of a game: “so just nuke your buddies”. (This may be behaviour inconsistent with sponsor’s objectives or with training players have had.) During analysis, it may be necessary to throw out last move results. (Charlie also commented that she might not let players know how many moves there will be; so, they will never know if they may be on the last move.) Thus, a good scenario may have elements at the beginning or at the end that are not driven by the sponsor’s objective, but are intended to deal with first- or last-move phenomena.

Sub-group 2 “Ensuring your scenario stresses your problem” by Fred Bowden

Attendees: 7 participants

Summary of timeline

- Summary by host of four key factors for consideration of scenario around for break point wargaming
 - Value of conceptual model
 - Stress decision variables
 - Realistic immersion
 - Stakeholder preference vs Analytical focus
- Outline on use of ConceptBoard
- Discussion around sub-wargame concepts

Key discussion points

- Value of conceptual model

- No comments around this topic
- Stress decision variables
 - Need to do this
 - Needs to be in a realistic way to ensure keep participant engagement
 - Need to make sure you are working at the right level; strategic, operational and/or tactical
- Realistic Immersion
 - "Realistic" is subjective
 - If we are looking a long way into the future, a scenario that feels realistic by the standards of now is quite likely to be misleading
 - *Post comment by FB: Need to shift thinking from preparing for a given future to a possible future*
 - Need to use the correct sources to build immersion whilst anticipating stakeholders (for example credible in the eyes of both military and futures analysts)
 - Maybe a better statement is sufficient immersion to get the desired outcome
 - How far into the future can we credibly wargame/forecast
- Stakeholder preference vs Analytical focus
 - Anticipation of sponsor perception of 'credible' futures or scenarios
 - How important is the sponsors perception? What is more important - that the sponsor thinks is it credible or that you truly test the variables?
 - Truly test the variables I would say... but anticipating sponsor perceptions will smooth the wheels when the questions come about any scenario assumptions
- Sub-wargame concepts
 - Discussion around how you might run a wargame as part of a larger training exercise
 - Large exercise key training goals
 - Want to be able to create sub-wargame, with only some elements but within context of larger exercise
 - Example might be looking at cyber attack without stopping the whole exercise
 - This would include only a select number of those being exercised
 - Want to be able to feed some outcomes from the sub-element to the broader exercise but also be able to keep some restricted

- Need to ensure it is still a meaningful engagement
- This might be the only opportunity to engage all those critical to the sub-problem
- Some discussion about the different difference between an Exercise vs Experiment
 - Reference to work done with the US Marine CORPS by Center of Naval Analysis (will try and find this slide so we can include it in the notes)
- Some discussion about multi-layers simulation based wargaming. Where one computer based simulation wargame feed a second computer based simulation wargame. The first of these was broader and the second focused on urban operations.
- Also discussed two wargames that focused around subgames and higher-level game
 - These has matrix games at the higher level and tactical “systems games”
 - Stalingrad – [Stalingrad Matrix Game \(mapsymbols.com\)](http://mapsymbols.com) (will try and find a better link)
 - Danger, Bears Ahead – [The Road to the North Integrating Matrix Games, Operational and Tactical games in a “High North” Environment \(professionalwargaming.co.uk\)](http://professionalwargaming.co.uk)

Sub-group 4 “Achieving fit-for-purpose scenario building” by Hiroyasu “Hiro” Akutsu

Question 1: What is the first thing you do to ensure your scenario is fit-for-purpose?

Responses:

Just as other initial and essential preparatory works, the objective for the game should be articulated from the start.

Ensure your scenario is playable by the players/students you expect

Ensure everyone understands why your scenario should be used now, not later, to achieve the expected impact

Anticipate the possible feedback to the scenario from the players

Ensure your scenario is not so complicated that the players do not understand or misunderstand

End the game within time limits without wasting time

Ensure your scenario is fit for role assignment to the students/players

Further discussion:

- As for objective, there could be multiple objectives such as teaching content whilst exploring options
- Teaching content has many elements per se including teaching decision-making, strategy, tactics etc.
- Ensure your scenario meets both the designer’s objective and the players’ needs/expectations

Question 2: What checkpoints do you have to ensure your scenario is fit-for-purpose? -Playtesting is used for finding more points to check and should/can be repeated

- Ensure your scenario is played by relatively experienced players so as to receive relatively reliable feedback to make appropriate adjustments

Concluding Remarks by Hiroyasu “Hiro” Akutsu

Participants were invited to keep in touch with further progress through the website:

<http://opanalytics.ca/scenarios> . It was also stressed that the topic of this workshop will be pursued in the various “Connections” conferences that are held throughout the year, with Connections Oz being the next one (in December 2021).

Comments from the hosts

After the workshop concluded the four hosts exchanged ideas on what worked well and what seemed not to be very productive.

During the subgroup sessions, there was good engagement from several of the participants. However, many participants chose to listen and not actively engage. This applied to all subgroups.

In three of the subgroups Conceptboard was used by only one or only a few of the participants. The audio track of the discussion on Zoom often provided a better history from which to develop a record of proceedings. The exception was Subgroup 3 on “scenario-space dimensions”. There the Conceptboard was used more extensively, though still by only a few participants. One reason for the greater uptake may be that the subgroup included work colleagues of the host and they were already familiar with the concept of scenario space dimensions so could get off to a quicker start.

Hosts generally found it difficult to manage Zoom and Conceptboard simultaneously. It meant that the host/facilitator had to engage in a dialogue with each participant while trying to maintain a record of proceedings. From the combined experience among the hosts of trying to engage in the past with players in a wargame and keep records, this parallel activity seems to be too much for one host/facilitator to handle. A better approach would be to have a team of two: one to engage in discussion and the other to maintain a record. A mature or well-integrated team might trade roles back and forth so both can engage in the discussion during the session. But having one individual be responsible to simultaneously facilitate the discussion and maintain the record seems to be too demanding for one person.

Using a team of two allows for other mechanisms to promote wider collaboration. The two can start the collaboration process with a to-and-fro between them on topics that are familiar to them, and then draw in other participants who may be reluctant at first. One of the team can challenge the other on some ideas or build on the other’s initial ideas and thus overcome the reluctance of some participants to speak up with what others might think are criticisms. The team, if well versed on the topic, may begin by sharing their own experiences and thus stimulate further discussion and comments from participants on their own experiences, whether to reinforce some comment, to elaborate on a comment with a further example, or to introduce contrarian ideas if appropriate.