

CONSTRUCTING A TABLE TOP EXERCISE (TTX)

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Table of contents

Purpose and scope of this paper	5	STEP 5: Execution	26
What is a table-top exercise?	6	Step 6: Exercise evaluation	28
When is TTX the right tool?	7	Endnotes	29
Exercise frameworks	8		
Six steps to organize a TTX	9		
STEP 1: Intent & decision to hold a TTX	11		
STEP 2: Setting TTX goals & objectives	12		
STEP 3: Create a TTX planning group	14		
Who is in the planning group?	14		
Performing exercise planning	15		
Define evaluation criteria	18		
Discuss topics for scenarios or vignettes	18		
Agree on exercise participants (target groups) and moderators	23		
STEP 4: Develop content (scenario) & organize event	24		
Develop scenario and other inputs as per the sponsor's intent	24		
Final exercise preparations	24		



Purpose and scope of this paper

A table top exercise (TTX) derives from military wargaming, a practice invented in Prussia in the early 19th century to develop officers and doctrine. In military terms, course of action (COA) analysis is a conscious attempt to visualize the flow of operations of force strengths and dispositions, adversary capabilities, and possible COAs and any civilian activities in the area of operations. Wargaming is the primary means to conduct this analysis. It is a disciplined process, with rules and steps, **to determine the chance of success each friendly COA has verses selected adversary COA.**

The value of this analysis is the identification of effects that potential adversary actions could have on friendly COAs, thus **the goal is to improve those friendly COAs.** Wargaming enables a team to identify difficulties and coordination problems as well as probable consequences of these planned actions. The psychological experience of the game itself leaves players more open to new, creative, and unexpected ideas and outcomes. It boosts receptivity to new options in a way that other forms of learning do not.¹

By offering **safe and controlled environments** in which participants can measure their ability to confront a given situation, exercises can help ensure participants are equipped with the appropriate skills and knowledge to address future disruptive events. Even if the parameters of a real crisis will always differ from those of a controlled exercise, they remain effective venues for increasing the level of preparedness and risk awareness. At a basic level, they constitute opportunities

for networking and for developing new contacts from across sectors, including with international organisations and partners.²

This document **reviews the TTX concept and provides an overview to guide development at a regional, national, and international level.** It applies NATO specific experience.³ Specifically, this paper:

1. Outlines taxonomies, benefits and limitations of the exercise design.
2. Introduces key steps and options for design and planning. (Particularly with regard to StratCom capability development)
3. Describes organizational procedures to execute, assess, and implement results.



What is a table-top exercise?

TTXs describes discussion-based sessions where team members meet in an informal, classroom setting to discuss their, real or gamified, roles during an emergency and responses. A facilitator guides participants through a discussion of one or more scenarios. Teams discuss guided by exercise goals and objective.⁴

A Table-Top Exercise (TTX) is a type of war-game analysis, but with a softer name that is more widely accepted within civilian circles. It is an organizational framework that helps implement institution's capacity and capability building goals. The choice of the education and training framework depends on the training objective and trainees' characteristics.

This event, also known as *talk-through*, *tabletisch*, *seminar* or *analytic gaming*^{5,6,7}, serve professional education and training in a variety of environments.⁸ Conceptually similar to wargaming, the technique often applied under military as well as civilian auspices.⁹

During the TTX, a friendly entity (blue team) and an adversary (red team) constantly try to find flaws to the system - physical, virtual or cognitive - or each other to improve their position. Depending on the complexity of the scenario, additional actors can be included (e.g. white team or green teams) who represent neutral actors that provide information or public opinion as required by the flow of exercise scenario.

German military developed the "red teaming" (simulation) method in the 19th century. It allowed force to get a better command of unpredictable events - "frictions" - in military conflicts. The friction, like weather, terrain, lacking or false intelligence, logistics problems, or movement and effect of troops deployed - all of these had incalculable effects on the success of the original plan.¹⁰

Games help people think through "wicked problems", such as counterinsurgencies, major wars, great-power competition, or pandemics.¹¹



When is TTX the right tool?

A TTX is appropriate to:

- Assess the strengths and weaknesses of the organisation's capabilities (roles, plans and procedures) designed to respond to crisis.
- Develop and refine knowledge on plans, procedures, and roles.
- Engage all stakeholders in a facilitated discussion to clarify inconsistencies and interpretations.
- Identify any policy shortcomings.
- Test if staff can answer/understand in coherence to existing policies and procedures.
- Create a safe environment for a team or teams to engage in a collaborative learning exercise in a crisis scenario.

A TTX is not appropriate to:

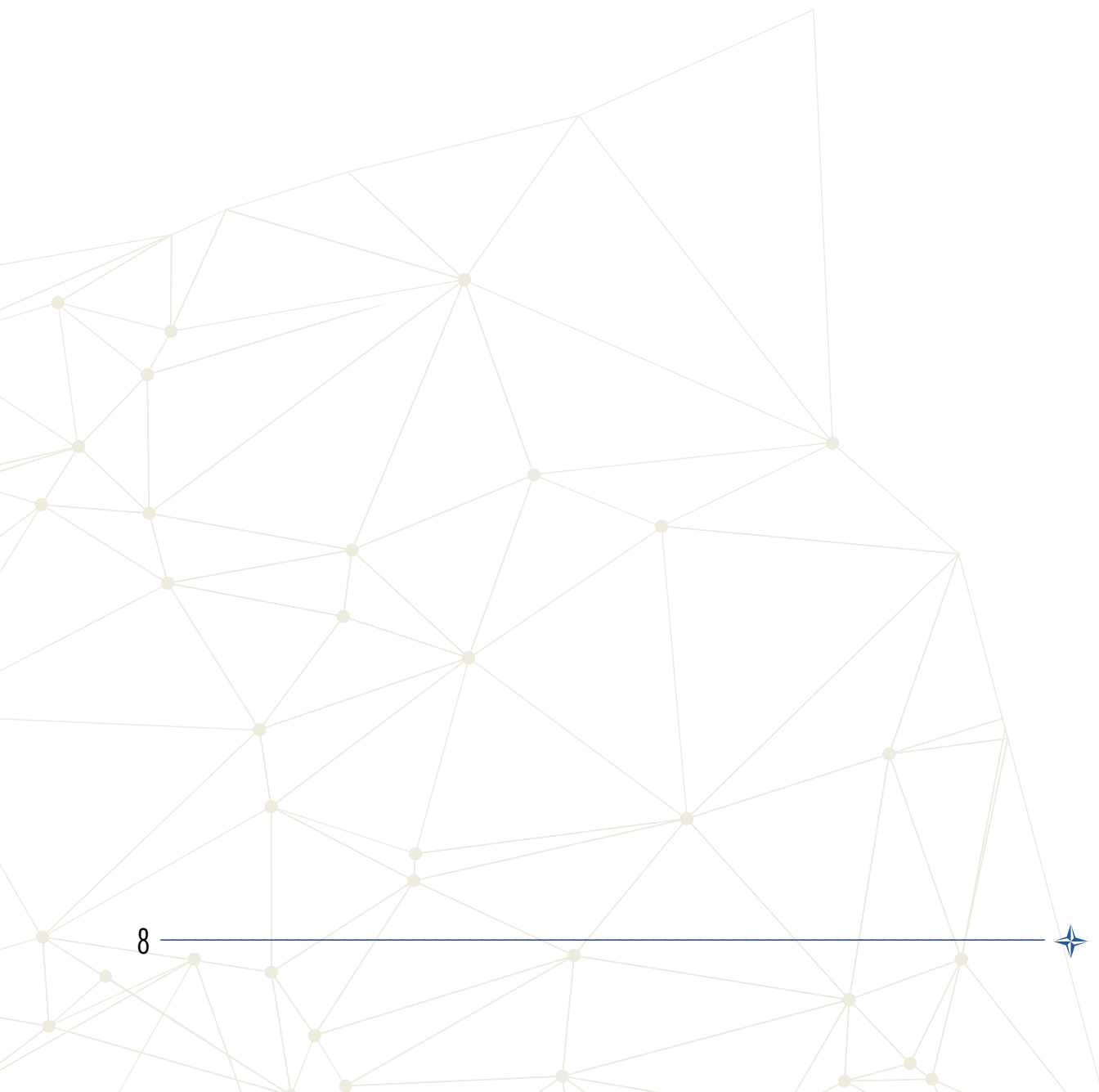
- Calculate outcomes (it's instead about exploring the meaning behind outcomes)¹²
- A tool to build procedures "from scratch".
- A tool to observe how individuals or teams react under pressure (Actors engaged may represent an incomplete view of a real-life situation).



Majority of classifications focus on the purpose of the game/exercise.¹³ Depending on purpose, literature suggests four models of a game-based exercise.¹⁴

Purpose	Objective
Systems exploration	Build out and understand a policy problem from different perspectives. No decision-level answers produced.
Alternative conditions exploration	Understand how change of key factors shape decision-making and choices.
Innovation	Find new solutions to problem.
Evaluation	Assessment of an effort, such as a policy. ¹⁵

Figure 1: Optional Exercise purposes



Six steps to organize a TTX

There are six core steps to plan, develop and implement a TTX.



"NATO Systems Approach to Training" process (Figure 2) helps to unwrap specific tasks. This document offers further practical examples of the process, handy to TTX planners.



NATO Systems Approach to Training

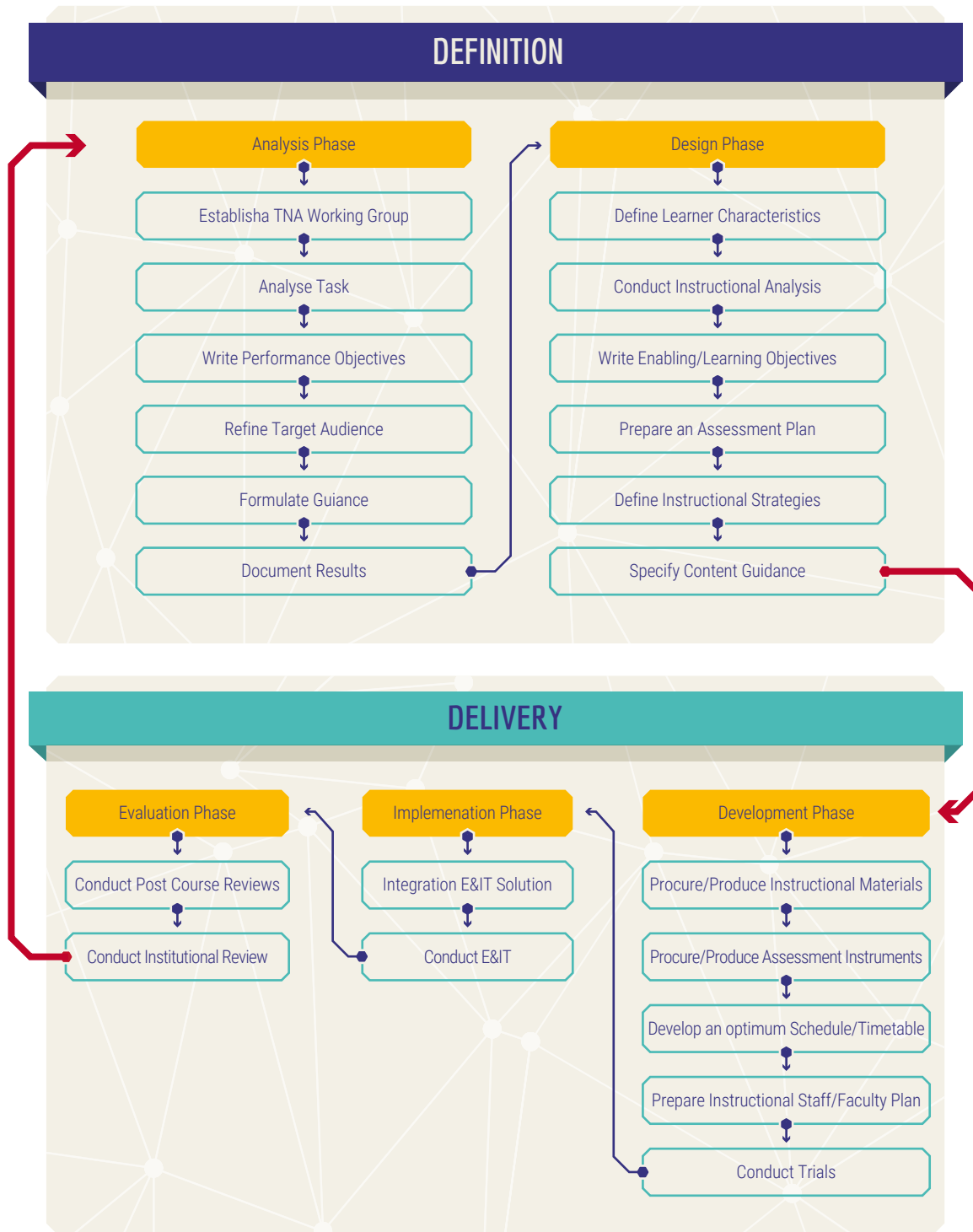


Figure 2: Annex F-1 of Bi-SCD 075-007 "NATO Systems Approach to Training"



STEP 1:

Intent & decision to hold a TTX

A decision to organize a TTX shall address organizational issues that can block or delay further action, both content and scope considerations.

Exercise content essentials

- Perform and review exercise concept (general objectives)
- Identify training audience
- Identify outputs (deliverables and/or events)

Exercise scope essentials

- **Administrative arrangements and responsibilities** (especially for cross-national or *ad hoc* events outside the organization's regular training agendas)
 - Finance: budget responsibilities such as participation fees, cost structure, accounts, controls.
 - Administrative point of contact
- **Level of Classification** of the TTX information agreed and clarified during the initial planning stage. In particular where training audiences represent institutions from different sectors and/or countries.
 - Security requirements for participants

- Information management requirements
- Availability of communication channels appropriate for sharing information and running exercise.

■ Level of publicity of the exercise and documents:

- Define the nature, amount, and medium of information to be public
- Assign public affairs officer(s) respective to expected volume of interaction
- Establish crisis communication procedures and responsibilities
- Identify intellectual rights
- Identify recording preferences

Discussions on scope and content essentials shall help to clarify:

- Lengths of exercise (total number of days/hours)
- Intensity (e.g. full day, defined hours per day)
- Form (In person or on line) – that will later reflect on the administrative effort and support.



STEP 2:

Setting TTX goals & objectives

The following general StratCom problems are examples of **overarching objectives to test and measure the strengths and weaknesses of the institution's StratCom process and decision-making**. The examples are illustrative; one TTX can cover multiple objectives.

1. Processes within information environment and related decision-making (e.g. structure, dynamics, actors, data gathering and use);
2. Value of information environment assessment and analysis (i.e. the capacity of existing capabilities or the lack thereof);
3. Testing information environment analysis instruments (including software) and/or related procedures;
4. Technology developments in the information environment;
5. Awareness raising of malicious information influence strategies, tactical elements and tools;
6. Resilience building of sectoral, national and international capabilities against malicious information influence activities;
7. StratCom mindset and approach at the strategic, operational and tactical level;
8. StratCom related decision making processes and procedures (individual, institutional, national responsibilities);
9. Institutional, national and international StratCom related cooperation (e.g. boosting and encouraging cross-sectoral, cross-national contact networks);
10. Cross-sectoral StratCom related cooperation mechanisms;
11. StratCom related risk assessment (action vs. no-action, reflexive control etc.);
12. Role and uses of long-standing strategic level narratives.



Successful application of the **StratCom mindset** is primarily the prerogative of the NATO (and advocated by entities such as the StratCom COE). It can therefore be useful to hold StratCom related TTXs for political level and senior decision-makers of the civil service, adding the leadership of strategic infrastructure institutions, senior editors and CEOs of public and

private media organizations, as well as other entities relevant to the information environment (e.g. representatives of social media platforms).

If the selection of objectives relates to the **StratCom process**, target audience involving the operational level (i.e. communicators) is more relevant.



STEP 3:

Create a TTX planning group

Establishment of a planning group and assigning key responsibilities launches the TTX process. Written organizational procedures and competences help streamline processes, especially in cases of more complex exercise design.

The **size of the team will depend on the scope, scale, and design** as well as choice of tech/environment of the exercise.

Outlined below are key responsibilities or competences you might expect in a more complex (international/numerous/multidisciplinary/hybrid) training event.

Who is in the planning group?

Exercise director	Acts as key decision maker. Adopts organisational procedure where such does not exist.
Lead Project Officer	Administrative leadership, Point of contact. Key communicator and liaison with the exercise sponsor/beneficiary.
Exercise directing/ control group	Constructs scenario geared towards achieving objectives. In a complex exercise, administrative and control functions are streamlined separately (organisational, communications, content, quality).
Academic advisors, SMEs	Assure quality, coordination and social acceptance of the scenario (content). Liaise with administration.
Facilitators	Ensure smooth TTX process and deconflict issues, during the exercise. Liaise with POC/administration.



Tech support	Technical, systems, applications live support during the exercise.
Evaluation team	A separate group of actors, in-house or independent, tasked with evaluation, follow-up and lessons learned.
Admin team	Person or people running administrative errands during preparation and exercise. Note taker/-s during the exercise.

Figure 3: TTX Planning group

Clear procedures (SOPs), whether predefined or developed by the planning group on a case-by-case basis, and responsibilities are vital, especially when outsourcing any of the responsibilities.

Perform exercise planning

1. Time

Below you will find a tip on things to consider by the exercise director and planning group. As well as selected examples of scope of work and planner's timelines.

The minimum time needed for TTX development at a national level is **two to six months**.¹⁶ Cross-national, regional or international TTX can require **up to 12 months or more** (depending on type and scale of the effort) for appropriate planning, execution follow-up or evaluation and lessons learned process.

As an example, the RAND Corporation offers a roadmap of 19 tasks to outline TTX development (Figure 6). It, however, focuses on tactics and omits specific coordination events such as planning meetings for the TTX planning group and the director/planning team to prepare a game's content.

Depending on the scope, planning can require one or more meetings to coordinate lines of action of different actors. In most cases **an initial and main planning meeting** is held. The project planning team shall determine and initiate the exact effort.

A TTX is usually less demanding on infrastructure, human resources, and time requirements. Preparations are focused on the quality of information prepared for participants and utilized during the event.

Organizers can plan for relevant **thematic briefings** and group discussions between different phases of the exercise or following

Step	Task	Load	Support
1	Characterize the "problem"	RAND	Sponsor ^a
2	Develop criteria for qualification as candidate solution	RAND	Sponsor ^a
3	Identify and characterize sponsor candidate solutions	Sponsor	RAND
4	Research and characterize other potential solutions	RAND	Sponsor ^a
5	Decompose problem functionally	RAND	Sponsor ^a
6	Decompose problem by discipline	RAND	Sponsor ^a
7	Develop participant list for game	RAND and sponsor ^b	
8	Invite participants	Sponsor	RAND
9	Research and develop applicable MOEs	RAND	Sponsor ^a
10	Research and develop applicable MOPs	RAND	Sponsor ^a
11	Develop crawl-walk-run vignettes that triangulate the problem (as defined in Step 1); engage relevant functions (defined in Step 5), and disciplines (Step 6); and are applicable to developed MO Es (Step 9) and MOPs (Step 10)	RAND	Sponsor ^a
12	Iterate above as appropriate to achieve robust game design	RAND	—
13	Develop game-day agenda, timeline, and tasks	RAND	Sponsor ^a
14	Develop mechanics and guidance for breakout sessions	RAND	Sponsor ^a
15	Develop read-ahead list and materials	RAND	Sponsor ^a
16	Develop on-site game-day resources for participants and staff	RAND	—
17	Conduct dry run	RAND	Sponsor ^a
18	Make needed adjustments	RAND	Sponsor ^a
19	Assemble game-day materials	RAND	—

^a Sponsor support consists of giving guidance, insight, and informed consent, as appropriate.

^b Sponsor and RAND share lead and support duties.

Figure 4: Nineteen sequential steps to build a successful game. Responsibilities

specific scenario events or injects, to include facilitation by **invited experts**. It can maximize the training and education value of the event. Moreover, allow the audience understand their own roles and responsibilities better and to evaluate the strengths and weaknesses.

The rollout of the TTX over a longer period can also be an option. In case the audience

involves various institutions or nations, some parts of the exercise can be executed specifically within a particular institution or nation or using specific media (e.g. internet, film).

2. Goals and objectives

The clarity on the overall goals and objectives of the organization initiating a TTX is



essential. Those will inform evaluation criteria (benchmarks of success) of the exercise.

Defining **goals**, terse general statements of what the initiator of the TTX seeks to achieve by the exercise, will help development of a purposeful scenario, selection of participants as well as design of the event.

Examples of goals: "provide insights" on perception, reaction, "test a planned" [course of action] to "inform decisions", "improve agility of design/action"

Specifying achievable **objectives** for and by individual participants and teams as they operate in the exercise environment (e.g. red team, blue team, white team, and experts) will help steer the discussion towards organizer's intended objectives. Objectives guide teams effort and the facilitator, and adjudication.

Objectives need to be relevant to the specific training audience (will they use the new knowledge, skill, tool), capabilities (do they have relevant resources to apply?) and prior knowledge (discipline or element of StratCom).

Examples of objectives: "design solutions", "communicate intention", "respond to actions of actor x", "seek to incite", "attempt to normalize", "organize cooperation", "promote action with a goal x", "seek to belittle/maximize", "deface/protect or prevent"

3. Exercise delivery. Roles. Supporting roles

Your conceptual answers above will guide further instrumental decisions and exercise specification, reflecting on:

- Key actors, as teams engaged. Especially when there are more than two actors (Red, Blue (essential), Green (e.g. influencers, specific government, organization), White (organizer's expertise).
- Facilitation/-ors during for the exercise. If not guided and unless intended so, the team of actors might rest on individual expertise and perceptions (incl. groupthink, confirmation bias - other standard cognitive errors).
- Training environment, intensity (duration).
- The training audience.

Figure 7 (p. 18-19) can serve a reference while considering initial training/TTX ideas. It combines the detailed and method agnostic rules for the NATO E&T preparation with the more specific requirements for TTX planning. A template timeline for a large scale TTX planning at national level (or a small international exercise) offers an indicative overview on the time needed to perform and the effort.

The figure also reflects on variety of potential considerations with regard to



Time max	Decision/action	Event	Responsibility
W1	TTX intent approval		Event sponsor
W2	Establishment of TTX planning & controls team		Event sponsor
W3-8		Initial/planning meeting	Event sponsor & planning team
W9-10	Official approval of TTX objectives		Event sponsor & planning team
W11-14		Scenario/vignette development.	SMEs
W15		Main planning meeting	Planning team
W16-17	Implementing decisions of the MPM		Planning team
W18-22	Final preparations for TTX execution		Planning team
W23		TTX execution	Event sponsor & planning team
W24-26	Analysis evaluation results		Event sponsor & planning team
W27		Post TTX meeting	Event sponsor & planning team

Figure 5: Time (weeks) required, decisions and events, responsibilities and tasks. And planners flexibility considerations

different scopes of an exercise. Where heedlessly following a prescribed procedure can produce unnecessary hold-backs (procedures) and prolong preparations.

Define evaluation criteria

Organizations often identify performance

gaps as part of routine management or organized planning and evaluation process. Insufficient or wrong education and training can be a cause and, therefore, harbour a solution to the performance gap. TTX is one of the modes of delivery.¹⁷

Evaluation criteria for the TTX as education and training activity must reflect



Results	Institution	National	International
Decision of senior management to conduct a TTX and assignment of key executive	!	✓	✓
Planning team (PT) or director assigned	✗	✓	✓
Duration and time • Objectives • Training design (scenario or vignettes, other methodology) • Required SMEs • Event (place, medium) • Prepare save the date to participants/institutions	✓	✓	✓
Appointment of key org. personell (POC, Director, Admin and support, Controls) • Initial decision on event's design	!	✓	✓
Draft scenario	✓	✓	✓
Agreement: scenario/vignettes and training team/s • Exercise controls	✓	✓	✓
Invite participants • Invite speakers (where necessary) • Preparation of training materials.	✓	✓	✓
Venue and tech support plan • Moderator /control team briefs Travel arrangements (where required) • Dry-run, if necessary	!	✓	✓
Event	✓	✓	✓
Report and lessons identified/learned	!	!	✓
Planning team, organizers meet. Info sharing	✗	!	✓

Based on past experiences of StratCom COE members, symbols refer to flexibility of event preparations plan with tasks that are required (green), can merge with others (yellow), or are not necessary (red) given scope of the exercise. TTX is normally a physical engagement.

the required level or intensity of the achievement of TTX goals and objectives that will be sufficient for filling performance or knowledge gaps of the personnel involved.

Both, quantitative and qualitative evaluation criteria can reflect on the effort and level of engagement.

The prior will assess the number. Count of trainees or participants, number of participants of a certain rank or line of effort also geography of participants – as well as interlinkages of the above where valuable.

Alternatively, qualitative evaluation criteria will reflect on specific level of subject-



matter expertise delivered, for example – introductory training or content required for deeper knowledge of specific caveat of information, or new/updated skills. For example – grasping the concept of information environment, finding information, knowing and being able to use tools for assessing its authenticity.

An organizer will be interested to assess if and to what extent the TTX was a match for participants (and their institutions, where relevant) expectations.

Discuss topics for scenarios or vignettes

The most common approach to a TTX is a narrative based exercise, structured by a **scenario** or **vignettes**¹⁸. It requires the target audience to follow a pre-defined event sequence; including responding to injects (new disruptions and information) designed to help set the desired tempo and direction of the discussion. The content can be a real life situation based on risk analysis, experience or *what if* analysis.

A TTX is a story – based exercise that stimulates analysis of a course of action. Four story formats to support the exercise serve various audiences and contexts.

Case studies – long narrative descriptions of real and hypothetical situations in which learners are asked to identify or solve a problem

Scenarios – narrative descriptions that contain a set of realistic assumptions and facts about the future used to provide a unified context for decision-making

Vignette – differs from the above with several elements:

- it is a story, unrealistic and simplified real life elements;
- it is under 200 words;
- it simplifies a real life situation in which no participant is likely, but not mandatory, to have expertise;
- its set of tasks is directly connected to a scoring rubric; and
- it is purposely incomplete, either requiring synthesis when the plot line stops at a critical juncture and there is a problem to be solved or evaluation when the story's details are omitted so that multiple interpretations can be defended.
- Due to fewer complexities and personalities, the story provides focus and stimulus for a discussion of topics difficult-to-explore and sensitive



All content elements incorporated in the TTX scenario and/or vignettes as well as specific injects need to provide **relevant training opportunities** according to TTX objectives.

To prevent politically or culturally sensitive discussion that might negatively disrupt the effort, in particular where power or geographic diversity plays role, it is recommended to **agree on issues the TTX storyline will not discuss**. It might not prevent a discussion starting; however, having it will not be part of exercise goals.

Avoid redundancies. Too many scenario events and injects can lead to a lower training value. It risks encouraging the training audience to pay less attention to their role and possible actions within the greater picture. Instead, the focus shifts to swift completion of all the exercise stages.

Training knowledge and skills to build StratCom capability

The following thematic focus can be further developed for testing the StratCom mind-set and processes both at the strategic level target audiences, as well as the operational level. They can also be mixed and presented to the target audiences in clusters.

For the basic StratCom capability building, we recommend several focus areas to initiate discussion on TTX planning.

- **Focus 1.** Intentional manipulation of closed or public on-line social media platforms or specific groups by foreign state or non-state actors (hijacking of existing groups, infiltration, massive presence of automated social media accounts, manipulated audio-visual content including fakes, deep-fakes, etc.) within a specific socio-economic or political context with the purpose to destabilize internal or regional security situation or to ensure a specific political or social response.
- **Focus 2.** Exploitation of sensitive narrative(s) through their increased and orchestrated presence in media and on-line platforms aiming at a specific political outcome
- **Focus 3.** Attempts to ensure overreaction at the decision making level (reflexive control) by spreading a fake audio-visual material on a sensitive, but topical issue, which begs the attention of the decision-making level. For example, this might take the form of fake reports of a sudden crisis-situation in the neighbouring country including fake reports about specific groups.



- **Focus 4.** Disruption to national/regional social support (availability of services such as financial support) because of cyber threat or disinformation.
- **Focus 5.** Abusing known or tacit social vulnerabilities including low trust in media and use of official information (e.g. reliance on local/personal contacts as primary source of information in case of disruptive event)
- **Focus 6.** Intentionally caused public health or environmental harmful event with the intention to destabilize situation in a given country or a region, which can lead to changes in the political leadership, direct foreign interference etc. The scenario can include events, which are actually taking place in “real life” or they can be based only on the intentional spread of disinformation.
- **Focus 7.** Exploitation of radicalized movements or minorities with the goal to destabilize the socio-economic and political situation.

The overall training value of the scenario-based exercise largely depends on the relevance of the scenario events and injects to the particular training audience. The scenario need to include the proper social economic, geographical, as well as political assumptions.

While covering all the relevant theoretical aspects related to StratCom mindset and processes, the scenario either must reflect recent (from the past year) or anticipated events. This approach can improve the training value in particular for audiences representing the strategic decision making level.

Depending on the classification level of the exercise, the scenario could be based on **actual threat assessment or in-depth information environment assessment**.

The following topics of focus may be relevant for designing a basic StratCom scenario:

- Owned, controlled or monitored share of social media;
- Media consumption habits of population;
- Engagement intensity levels of different audiences;
- Spill-over potential of malicious narratives;
- Presence and influence of closed information environment groups;
- Malicious manipulation potential of different platforms;



- Lack or presence of legal framework for effective information environment ;
- Monitoring and control of illegal behaviour of different actors;
- Narrative dominance, narrative shifts;
- Narrative high-jacking;
- Presence levels of official communication accounts;
- Communication infrastructure challenges (mobile networks etc.);
- Government StratCom capabilities;
- Government StratCom processes;
- Instruments at the disposal of government& public sector;
- International cooperation;
- Joint monitoring and analysis capabilities;
- Communication channels for exchange of IAE and analysis;
- Multidimensional analysis capabilities (narratives, visual elements, network analysis, infrastructure analysis);
- Synergies with other actors in the media environment, e.g. regulators, policy makers.

Agree on exercise participants

Decide on roles and responsibilities during exercise. Such as: (1) Organizers and support, (2) Players or participants, (3) Embedded participants (moderators, and if relevant, role-players), (4) Evaluators.

A scenario can be tailored to a team's training needs (or vice versa). In most applications, the scenario will take precedence. Both training needs and objectives will guide choices of the level of representatives required, whether it be more strategic (management, senior officials), operational (mid-management), or tactical (line officers). Other stakeholders should also be considered where necessary.

There are options for segregating groups. For example:

- A single group split up in smaller teams with the same roles and objectives (in case of a large training audience with similar distribution responsibilities)
- Multiple groups with distinct roles and responsibilities as per scenario (e.g. group of decision makers, group of senior political leadership, group of communicators etc.)

Where the TTX is an international effort, pay attention to structural reasons that may help or hinder cooperation (e.g. competencies, language, hierarchies, institutional priorities, sensitivities precluding discussion).

When exercise is implemented on a dedicated digital platform or via VTC tools, roles and responsibilities must include specific and parallel line of effort throughout the exercise.



STEP 4:

Develop content (scenario) & organize event

Develop scenario and other inputs as per the sponsor's intent

- Draft a scenario script that reflects the problem to be solved or discussed
- Break out the script as a sequence of events.
- Develop injects or specific events (vignettes) that can add nuance or new dimension to base scenario or be used to exercise on a real life situation "scenario".
 - Consider the tempo and nuance of participant engagement. A "crawl-walk-run" sequence is advised.
 - Formulate expected responses (engagement and performance) to help adjudication of results.
 - Build in breaks to manage TTX dynamics (time v. results).
 - Decide on levels or engagement prior to the exercise (for example, will the scenario be in public or shared with participants only?)
- Realistically consider time allotted for

discussion, work on each inject/vignette, proportional to the general objective of the team and the TTX.

- Form teams per scenario requirements.
- Develop tailored read-ahead materials for players and other stakeholders
 - Content (scenario).
 - Agenda
 - Goals and expectations.
- Create visuals and inputs, as required (e.g. news, documents, pictures relevant to a vignette).

Final exercise preparations

Logistics

- Select training location (insuring the technical infrastructure is available)
- Check participant listing (including alternative participants in case of declines or "no shows").



- Invite participants (teams) with support of the exercise sponsor.
- Send final preparatory materials to training audience (2-4 weeks prior to training).
- Appoint note takers for all teams. Tasked with preparing a summary of process every day and following the exercise.

Facilitation

- Decide on the role/goals and intensity of engagement of team's facilitators.
- Prepare guidance to facilitators.

Organize a **“dry run”** of the exercise with facilitators/team's moderators (white team)



STEP 5:

Execution

The example execution plan provides appropriate learning and training opportunities for all the groups of the target audience according to the objectives set for the TTX. It shall correspond with the chosen set-up of the target audience organization (groups).

The exercise execution model below is an example of a matrixed approach, which outlines possible planning of scenario elements (basic assumptions, injects)

according to different phases of the TTX, parties involved (training audience, red team, exercise control group) and their connection with objectives set and desired outcomes and outputs of the exercise.

The TTX execution matrix template below presents the basic design to be considered for use in exercises that support knowledge acquisition and aim at collecting, structuring and improving expert knowledge.

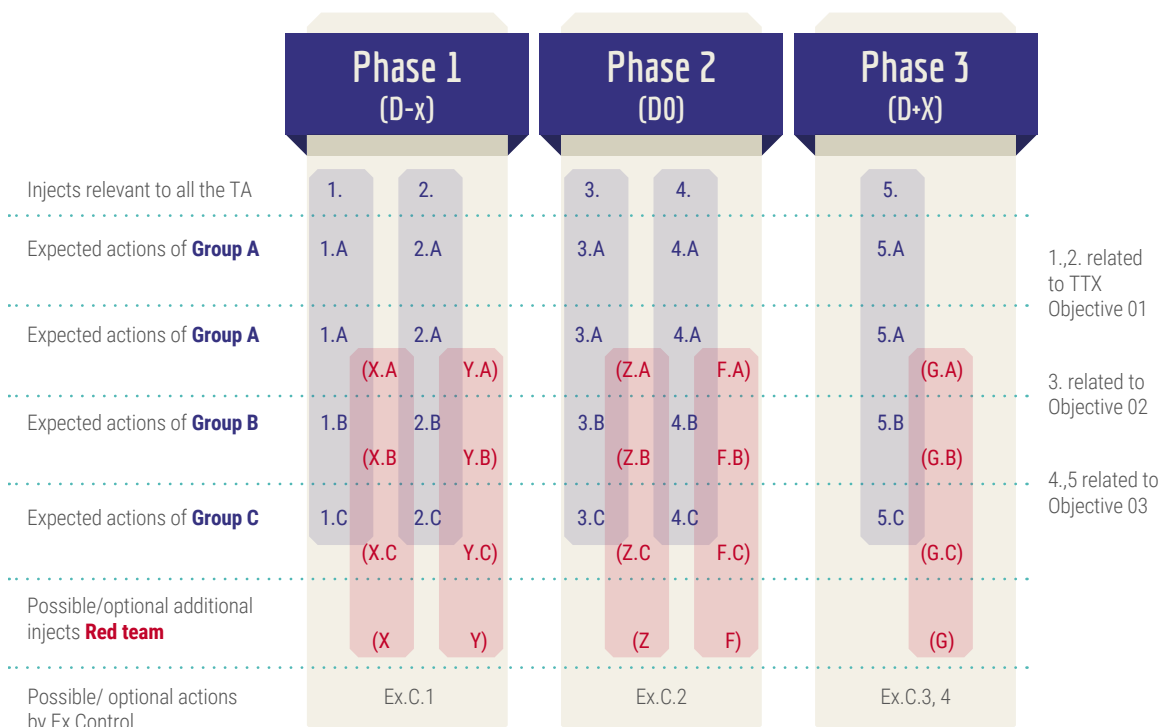


Figure 6: Example of exercise, time flow, input dynamics



This example model is best used if all the target audience groups (A, B, C) represent the same kind of responsibilities and depth knowledge, of various angles of a problem. The number of injects, in particular additional injects by the red team or optional actions (such as corrective measures) of the organizers control group shall depend on the intended objectives as well as the scope of selected objectives.

Additional lines of effort can add more substance to the discussion. Independent teams representing specific stakeholders could represent internal or external advice and expertise, role-play actors. It increases the complexity, but allows exploration of dependencies.

The number of phases depends on the objectives and the scenario of the TTX. They can be designed as a timeline (as in the example below – D-X, D0, D+X, where D0 is the main event of the exercise and two other phases are related to the time before and the time after that). However, this is not the only possible way of organizing them.

The rhythm of the exercise, however, is preferably agile and shall depend on regular activity assessment and negotiation between organizers and moderators of specific activities (e.g. syndicate work supervised by a moderator). Discussions or/and end of day debriefs shall be recorded to contribute to exercise debriefs and later to conclusions and lessons identified.



Step 6:

Exercise evaluation

The purpose of the evaluation phase is to assess the efficiency, effectiveness and affordability of a TTX model to interrogate the COA. This defines if the efforts worked or not.

For example, the effectiveness of the procedures followed by the StratCom team need to be identified in order to ensure maximum collection of lessons identified (LI) and turning them into lessons learned (LL). Presence of on-site observers, training audience self-observation, questionnaires, individual and/or group interviews, as well as automated evaluation capture (in case of on-line and distance formats of TTX) can all be considered for the best possible value of TTX.

The evaluation needs to represent all the relevant institutions and training audience in order to be able to analyse the processes and observations from socio-economic, political, procedural and technical perspectives.

It is preferable record, discuss and distribute Lessons Identified using a template (such as NATO's template lessons learned¹⁹) or as defined on the TTXs planning documents. It should be agreed on by exercise management team and sponsors.

Step 3 suggests an early assessment or evaluation criteria in the context of exercise objectives, as part of exercise planning. A full lessons identified process reaches beyond that.

Potential areas of assessment and evaluation

- Overall achievement of training objectives
- Relevance of objectives set to the target audiences selected
- Relevance of the scenario (main elements, injects) to training objectives set
- The overall design and planning of the TTX
- Briefings (in-briefs, de-briefs)
- Training environment (technical capabilities etc.)
- Administrative arrangements

Consider the format and medium of evaluation, pending security considerations. Digital forms of information gathering for the needs of evaluation are more versatile.



Endnotes

- 1 Bryant and Nagle (2021), "Wargaming for the new Great Game". Wargaming for the new great game: <https://mwi.usma.edu/wargaming-for-the-new-great-game/>
- 2 Got (2020), "NATO crisis management exercises: preparing for the unknown"
- 3 Bi-SC 75-007 Education and Individual training directive and Bi-SC 75-003 Collective training and Exercise directive.
- 4 Coordinated state-wide emergency preparedness, a resource with brief and poignant description of a TTX effort and uses: What is a Table top Exercise? – COSTEP MA
- 5 Henry R., Berner S., Shalpak D. via RAND Corporation (2020) Serious Analytical Gaming. The 360o Game for Multidimensional Analysis of Complex Problems: https://www.rand.org/pubs/research_reports/RR1764.html
- 6 Analytic gaming: <https://www.rand.org/topics/analytic-gaming.html>
- 7 Design methodology of analytical games for knowledge acquisition (2021). de Rosa¹, F., De Gloria, A. International Journal of Serious Games. Volume 8, Issue 4, December 2021. Available from: <https://journal.seriousgamesociety.org/~serious/index.php/IJSG/article/view/456/437>
- 8 US, California Hospital association mentions seven examples of TTX in: "What is the difference between a tabletop exercise, a drill, a functional exercise, and a full-scale exercise?" From: What is the difference between a tabletop exercise, a drill, a functional exercise, and a full-scale exercise?
- 9 Why wargaming works (2011), Perla and McGrady: https://www.jstor.org/stable/26397225?seq=1#metadata_info_tab_contents
- 10 Red Team Improving Organizational Resilience (Deloitte)
- 11 It's time to rethink our wargames: <https://inkstickmedia.com/its-time-to-rethink-our-wargames/>
- 12 Opinions vary on whether COA, a building block of mission analysis in a military decision-making process, is an appropriate objective for a TTX. In this paper, however, we use the concept of COA to describe a discussion based or analytical exercise.
- 13 Ibid 5, p.3
- 14 Bartels ibid
- 15 Method recommended: Teams engage in falsification of COA – game points out why a solution is likely to fail. It not being proof of its success.
- 16 IWC source
- 17 NATO BI-SC Education and Training Directive (075-003), September 2016, offers Annex D-1 offers a robust framework for performance gap identification.
- 18 Carolyn Jeffries and Dale W. Maeder (2006), Using Instructional and Assessment Vignettes to Promote Recall, Recognition, and Transfer in Educational Psychology Courses. Available from: <https://files.eric.ed.gov/fulltext/EJ843450.pdf>. For more sources: <https://www.semanticscholar.org/paper/Using-Instructional-and-Assessment-Vignettes-to-and-Jeffries-Maeder/b4184e2e5d670f7956deb0fd8855c6c6f6766088>
- 19 The NATO lessons learned handbook (2011 ed.2), NATO JALLC. Available from: https://nlp.jallc.nato.int/iks/sharing%20public/nato_ll_handbook_2nd_ed_final_web.pdf





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