

Biological Security Education Handbook: The Power of Team-Based Learning

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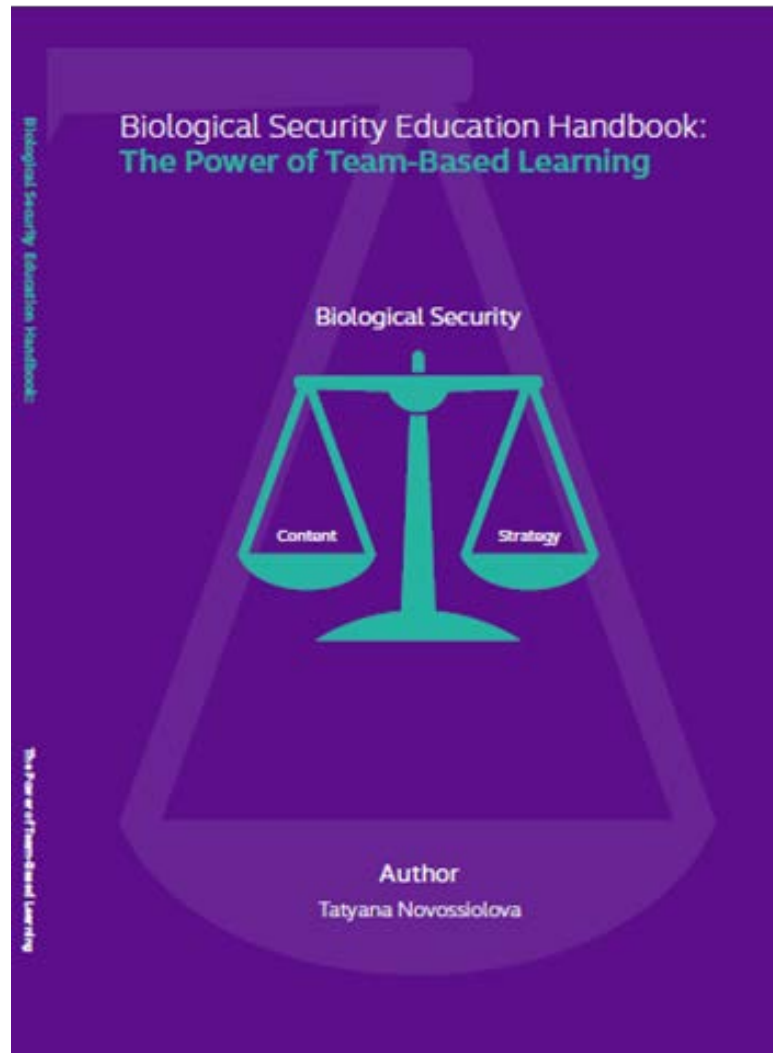
Steps Toward Effective Biological Security Education
Side Event

BTWC Meeting of the States Parties
15 December 2015
Palais des Nations Geneva



**Threshold
Concepts**

**Active
Learning**



**Open-
Source**

**Easy-to-
Adapt**

**Easy-to-
Replicate**



Combining Strategy and Contents

- *'humans are not adept at making connections between disparate fields or types of knowledge, unless they are specifically helped to do so through education'* (NAS 2000)
- Therefore, for education to be effective, attention has to be given both to the **content** of what is being taught and the **method** being used for the particular group being educated.

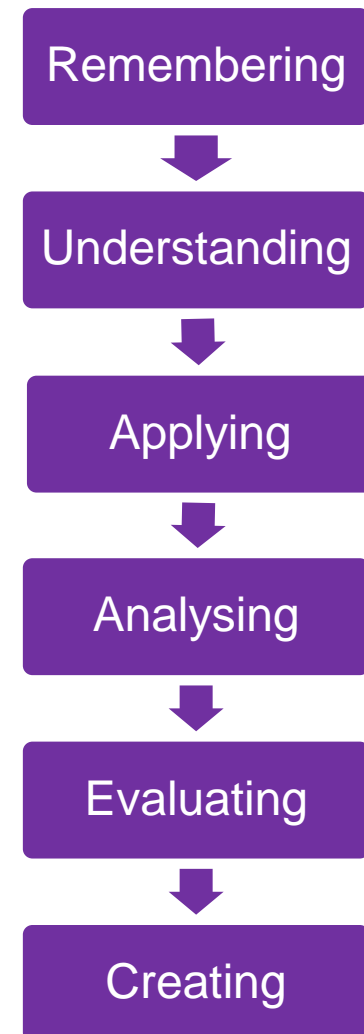


Biosecurity Handbook: Strategy

Team-Based Learning

- Active learning strategy: application of concepts rather than memorising concepts
- Easy to replicate without extensive prior training
- Easy to adapt to different training settings and for different purposes

Each chapter of the Guide is accompanied by a set of TBL exercises

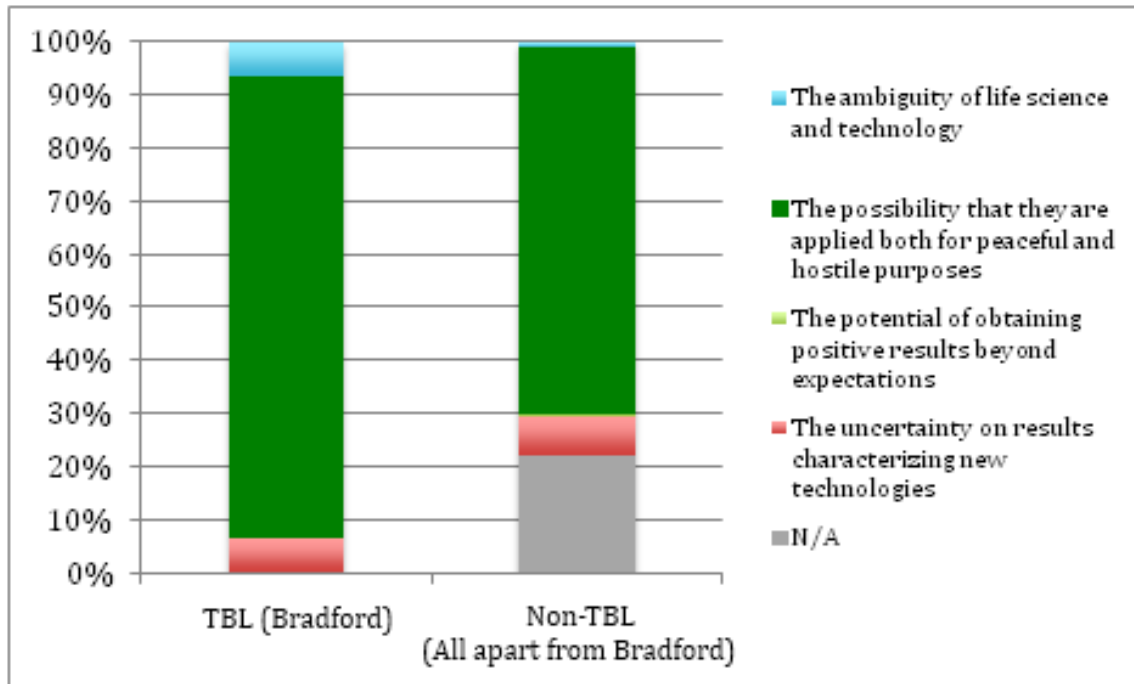


Team-Based Learning: Sequence of Activities

1. Pre-Reading Activity – **the respective chapter of the Guide**
2. Individual Readiness Assurance Test (iRAT)
3. Team Readiness Assurance Test (tRAT)
4. Appeal and Feedback Session
5. First Team-Based Application Exercise
6. Second Team-Based Application Exercise



Teaching Biosecurity via Team-Based Learning



- *Bioethics and Responsible Research*, interactive seminar held at the University of Bradford (November 2012)
- 30 participants divided into 5 teams

“Which of these statements best defines the dual-use dilemma?”

A Proof of Concept: Team-Based Learning Seminars for Students and Professionals in the UK, Jordan, Morocco, Ukraine, Tajikistan, and Georgia



UK, 2012



Tajikistan, 2015



Jordan, 2014



Georgia,
2015

Morocco,
2014



Ukraine, 2015



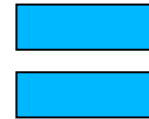
Fostering Awareness of Biological Security



**Biosecurity
Guide**



**Biosecurity
Education
Handbook:
TBL**

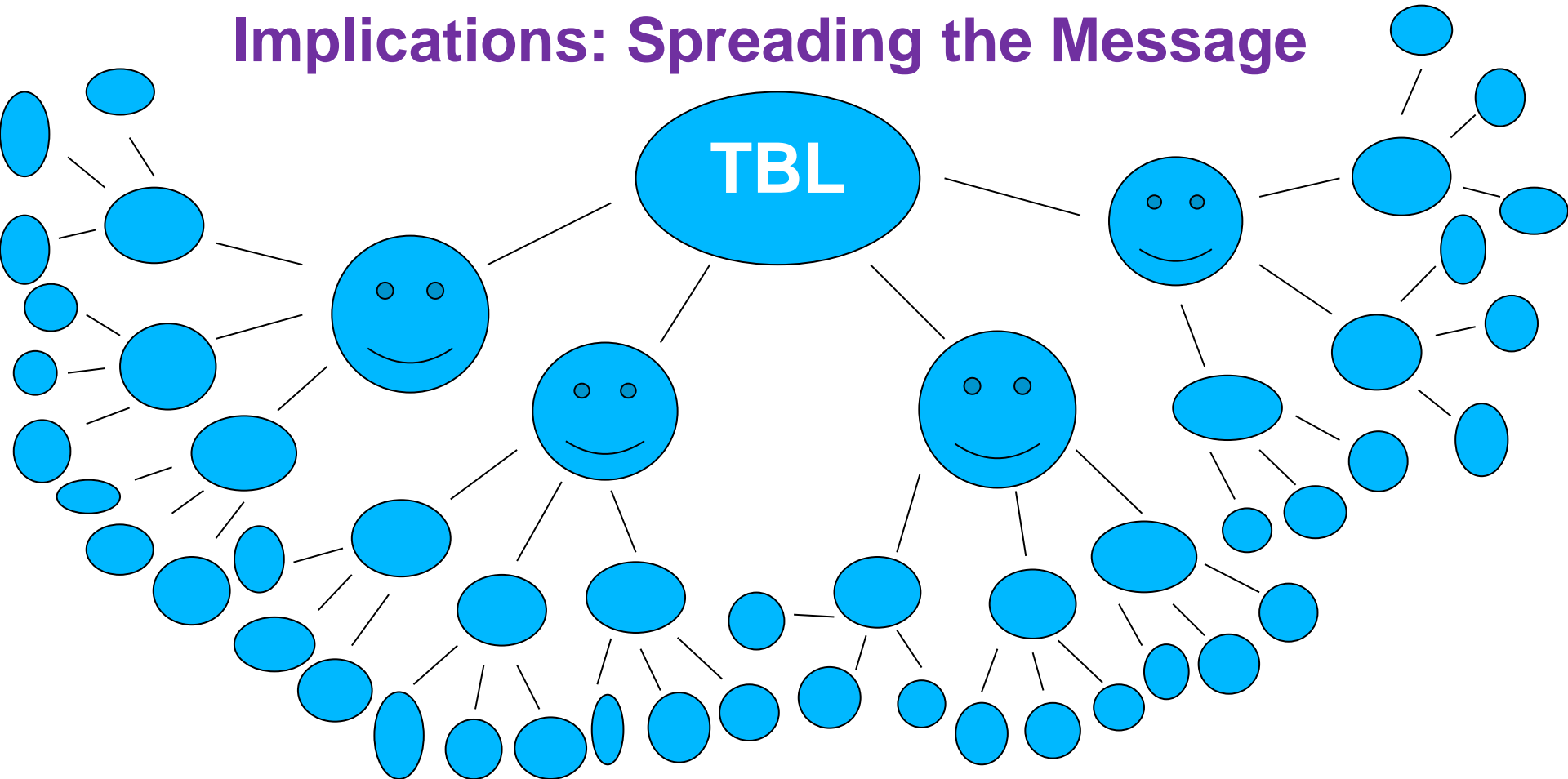


**Developing Competence
Promoting Engagement
Facilitating Collaboration**

Training Trainers



Implications: Spreading the Message





(Bio)Security Culture

- The assembly of **characteristics, attitudes and behaviour** of individuals, organizations and institutions which serves as a means to support and enhance security

IAEA, *Nuclear Security Culture*, 2008



Culture change

Actions to address the problem

A shared belief that the problem is significant

Awareness of a problem with existing practices



Thank you for the attention!
Any Questions?

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<http://www.brad.ac.uk/bioethics/>