



Utilizing xAPI to Track Learning  
Objectives and Skill/Competencies to  
Drive Business Decisions and Dynamically  
Adapt Training Content

**Paul Schneider, Ph.D**  
dominKnow

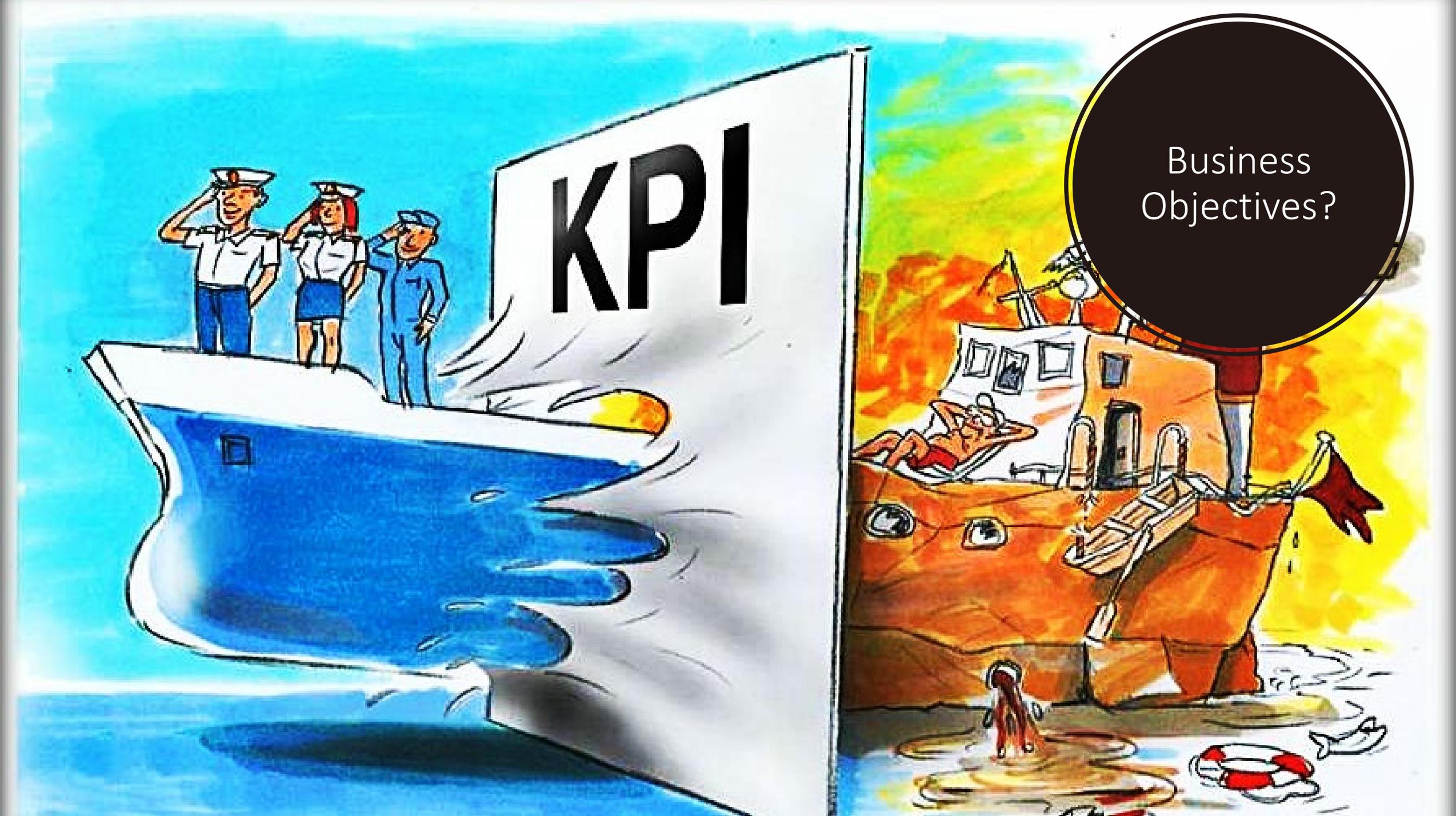
# Utilizing xAPI to Track Learning Objectives and Skill/Competencies to Drive Business Objectives

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dominKnow



**KPI**

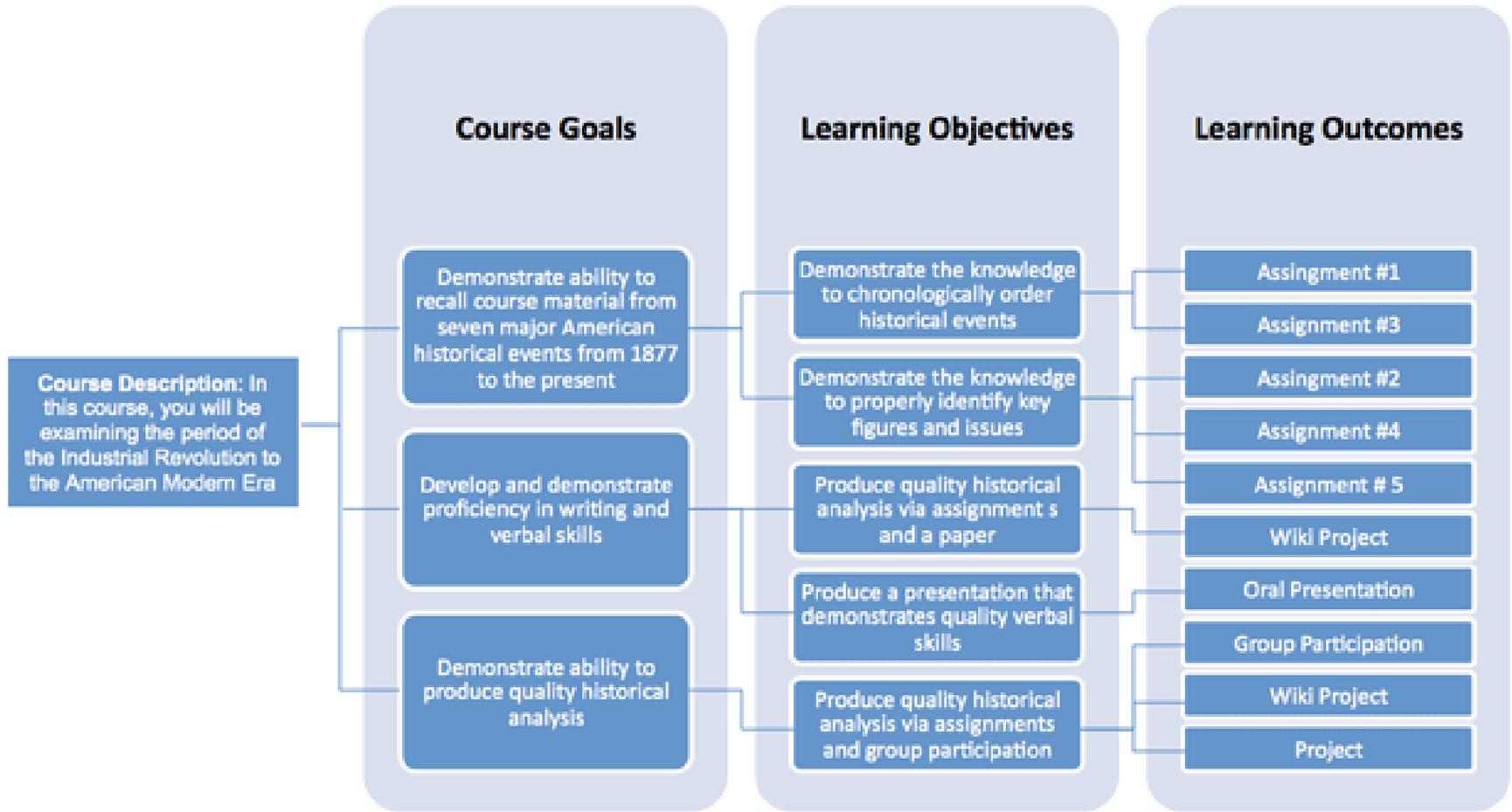
Business  
Objectives?

Skills and  
Comptencies

SKILLS



# What is a Learning Objective





S

PECIFIC

M

EASURABLE

A

CHIEVABLE

R

EALISTIC

T

IMELY

Think About It

# dominKnow's Learning Object

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## ▼ 1.1 Types of Security Threats

-  1.1.1 Malware and Social Engineering 1
-  1.1.2 Botnets, DDoS Attacks, Hacking, W

## ▼ Test Questions

-  Sample Multiple Choice Question
-  Sample Multiple Pulldowns Question
-  02\_Fill in the Blanks
-  06\_Short Answer

# Statement Love

RZ1M1FOZQY | paul.schneider@dominknow.com  
:https://cloud.scorm.com **completed** 'Learning  
Object'

```
{
  "id": "50cf9d18-4ed1-4d6b-a46e-f2c587e7f418",
  "actor": {
    "objectType": "Agent",
    "account": {
      "homePage": "https://cloud.scorm.com",
      "name": "RZ1M1FOZQY|paul.schneider@dominknow.com"
    }
  },
  "verb": {
    "id": "http://activitystrea.ms/schema/1.0/complete",
    "display": {
      "en-US": "completed"
    }
  },
  "result": {
    "completion": true
  },
  "context": {
    "extensions": {
      "http://id.tincanapi.com/extension/browser-info": {
        "os": "windows",
        "osVersion": "10",
        "browser": "chrome",
        "browserVersion": "75",
        "platform": "desktop",
        "userAgent": "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like
        Gecko) Chrome/75.0.3770.142 Safari/537.36"
      }
    },
    "contextActivities": {
      "parent": [
        {
          "id": "https://demo.authr.it/activities/module/200967",
          "objectType": "Activity"
        },
        {
          "id": "https://demo.authr.it/activities/course/100769",
          "objectType": "Activity"
        }
      ]
    }
  },
  "timestamp": "2019-08-07T00:07:21.799Z",
  "stored": "2019-08-07T00:07:22.640Z",
  "authority": {
    "objectType": "Agent",
    "account": {
      "homePage": "http://cloud.scorm.com",
      "name": "h801xEUvLKV7I6HhvvA"
    },
    "name": "Unnamed Account"
  },
  "version": "1.0.0",
  "object": {
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    "definition": {
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      },
      "description": {
        "en-US": ""
      }
    },
    "type": "http://adlnet.gov/expapi/activities/objective"
  },
  "objectType": "Activity"
}
```

# Setup the Skill/Objectives

## Learning Object Properties

Details Settings Notes

### Details

Title:

Keywords:

Description:

Objective:

Hero Image:

No hero image

0001 - Identifying Security Threats

Hero Icon

0002 - Email Security

0003 - OmniAll Data Protection

## Browse Objectives

Actions

Add Objective

ID	Title	Description
0001	Identifying Security Thre...	A person who achieves this objective has proven k...
0002	Email Security	A person who has achieved this objective will have ...
0003	OmniAll Data Protection	A person who achieves this objective understands t...

### Edit Objective

ID:

Title:

Description:

Ok

Cancel

### Details

ID: 0002

Title: Email Security

Description: A person who has achieved this objective will have knowledge of specific email security threats and tactics.

Edit

Close

Tagging the Content

Types of Security Threats - Malware and Social Engineering

Two of the most common types of security threats are malware and social engineering.

**Malware**

Malware is software or code installed on a computer with malicious intent.

**Learning Object Properties**

Title: Types of Security Threats

Keywords: data information privacy security

Description: Types of security threats that employees need to be aware of

Objective: 0001 - Identifying Security Threats

Metadata

Parent: Types of Security Threats

Pages: 2

Questions: 2

Created: 04/11/19 9:39:AM

Last Modified: 04/11/19 2:02:PM

Can Edit: Yes

Sharing / Reuse

Original Project: Protecting Information Security and Privacy xAPI - Course 1

Objective

The content's two Learning Objectives/ Skills/ Competencies

# Statement Love

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Skill Info

```
    numberPage : https://cloud.storm.com ,
    "name": "RZ1M1FOZQY|paul.schneider@dominknow.com"
  }
},
"verb": {
  "id": "http://www.dominknow.com/xapi/verbs/objective_complete",
  "display": {
    "en-US": "completed the objective"
  }
},
"context": {
  "extensions": {
    "http://www.dominknow.com/xapi/extensions/learning_object_iri": "https://linuxsaas.dev.dominknow.c",
    "http://www.dominknow.com/xapi/extensions/objective_client_id": "ID1",
    "http://id.tincanapi.com/extension/browser-info": {
      "os": "windows",
      "osVersion": 10,
      "browser": "chrome",
      "browserVersion": 76,
      "platform": "desktop",
      "userAgent": "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)
    }
  },
  "contextActivities": {
    "parent": [
      {
        "id": "https://linuxsaas.dev.dominknow.com/FlowFeature/activities/module/200294",
        "objectType": "Activity"
      },
      {
        "id": "https://linuxsaas.dev.dominknow.com/FlowFeature/activities/course/100286",
        "objectType": "Activity"
      }
    ]
  }
}
```

Personalized  
learning...



Details Options Navigation Behavior

SCORM Settings

Exit Behavior: SCORM Recommended

Forced Commit Interval: 5000

Completion Status: Default

Completion Criteria: Learning/Testing

Support High ASCII Characters:

xAPI Settings

Objective Adaptation: Off

xAPI Statements

Anonymize User Data:

Included Statements:

- In Same Project:
- Include Outline Statements:
- Include Resource Statements:
- Include Glossary Statements:
- Include Citation Statements:
- Include Drag and Drop Statements:
- Include Action Statements:
- Include Media Statements:
- Include Element Content Statements:
- Include Browser Information In Statements:

Update Delete Cancel

# Auto Adaptive Publishing

# Security Course: Two

Course 2  
Tags

The screenshot displays a course management interface. On the left, a sidebar lists course sections: 'Information Security and Privacy...', 'Course Introduction', 'Test Questions', 'Types of Security Threats' (with sub-items 'Malware and Social Engineering' and 'Botnets, DDoS Attacks, Hacking, Wi...'), 'Test Questions' (with sub-items 'Multiple Choice' and 'Multiple Pulldowns'), 'Email Best Practices' (with sub-items 'Email Best Practices' and 'Test Questions' containing a 'Sample True or False Question'), 'OmniAll's Rules for Protecting Data and ...' (with sub-items 'OmniAll's Rules for Protecting Data ...' and 'Test Questions' containing 'Multiple Choice' and 'Sample True or False Question'), and 'Conclusion' (with a checked 'Conclusion' item). The main content area shows a card for 'Email Best Practices' with a date '4/11/19 12:28 PM', 'Edit' and 'Duplicate' buttons, and a description: 'Because so many security threats spread by email there are a number of best practices that you should follow when accessing email on OmniAll's networks and systems.' Below the card is a blue envelope icon and the text 'Select each tip card to learn...'. A 'Learning Object Properties' dialog box is open on the right, showing fields for 'Title' (Email Best Practices), 'Keywords', 'Description', and 'Objective' (0002 - Email Security). The dialog also includes 'Hero Image' and 'Hero Icon' sections, and a 'Metadata' section with fields for 'Parent', 'Pages', 'Questions', 'Created', 'Version', and 'Can Edit'. A 'Sharing / Reuse' section at the bottom shows 'Original Project' and 'Currently used in'.

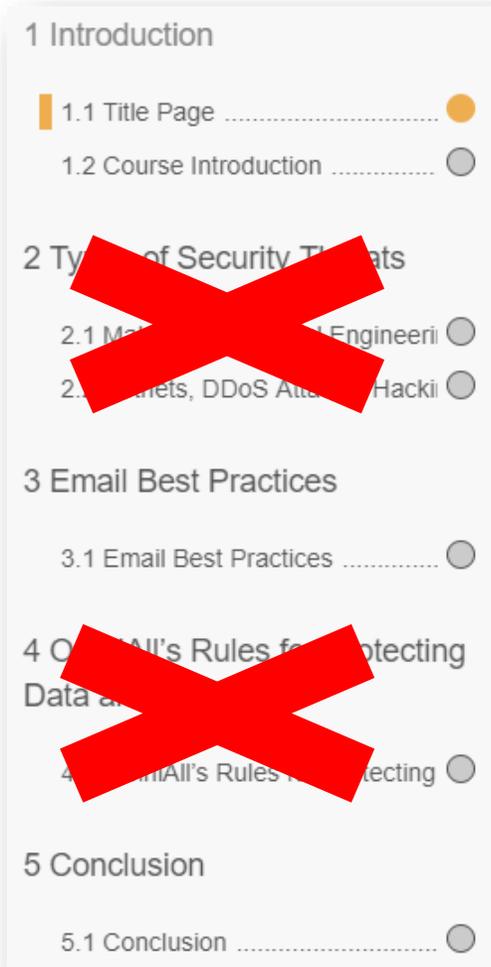
Objective

The content's three *Learning Objectives/ Skills/ Competencies*

*Two are the same objectives as before (could be different content)*

## Security Course: Two

What is happening?



1 Introduction

- 1.1 Title Page
- 1.2 Course Introduction

2 Types of Security Threats

- 2.1 Malware Engineering
- 2.2 Phishing, DDoS Attacks, Hacktivism

3 Email Best Practices

- 3.1 Email Best Practices

4 Open Source Intelligence (OSINT) Rules for Protecting Data

- 4.1 OSINT Rules for Protecting Data

5 Conclusion

- 5.1 Conclusion

User who hasn't completed the competency

All incomplete competencies are shown

User who has completed original content  
Content automatically adapts and only new competencies are shown

**For all:**

Tracking for completion of each activity is the same

Users get completions

Competencies completed are same....

When completed in what learning experience will differ (parent ID to the competencies)

I DON'T KNOW WHO YOU ARE,  
I DON'T KNOW WHAT YOU WANT

Some great xAPI resources! ➤

xAPI Resources <noreply@dominknow.com>  
to me ▾

Thank you for participating in the xAPI presentation!

To access xAPI resources and samples, [click here](#)



xAPI Resources  
[MakingBetter](#)

Non Traditional  
Forms of learning

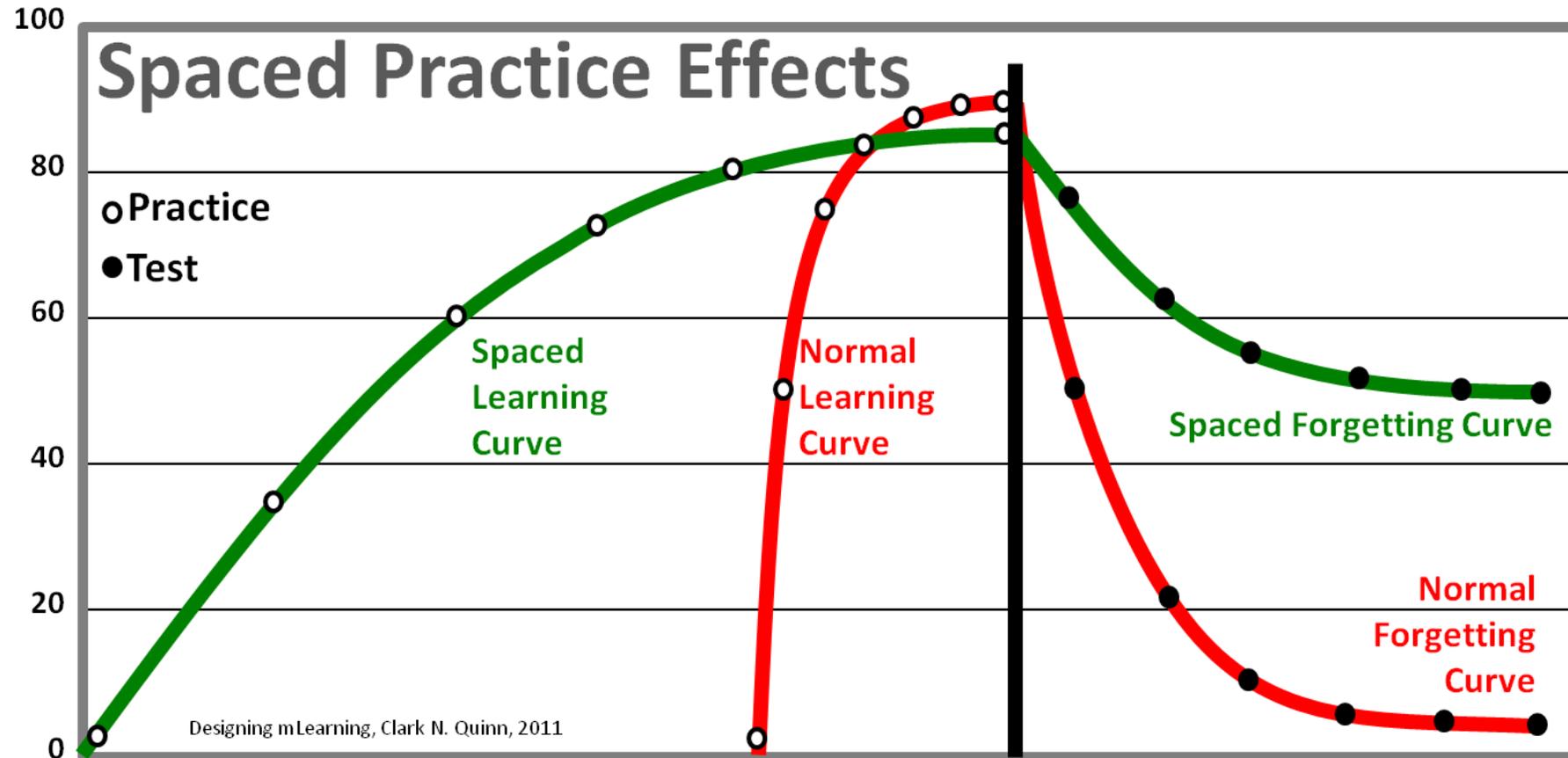
BUT IF YOU DON'T STOP SENDING ME INVITATIONS TO  
"CIRCLES", I WILL FIND YOU, AND I WILL KILL YOU

# Voiding Statements

```
    },  
    "verb": {  
      "id": "http://www.dominknow.com/xapi/verbs/objective_complete",  
      "display": {  
        "en-US": "completed the objective"  
      }  
    },  
    "context": {  
      "extensions": {  
        "http://www.dominknow.com/xapi/extensions/learning_object_iri": "https://linuxsaas.dev.dominknow.com/learning/objective/200294",  
        "http://www.dominknow.com/xapi/extensions/objective_client_id": "ID1",  
        "http://id.tincanapi.com/extension/browser-info": {  
          "os": "windows",  
          "osVersion": 10,  
          "browser": "chrome",  
          "browserVersion": 76,  
          "platform": "desktop",  
          "userAgent": "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)"  
        }  
      }  
    },  
    "contextActivities": {  
      "parent": [  
        {  
          "id": "https://linuxsaas.dev.dominknow.com/FlowFeature/activities/module/200294",  
          "objectType": "Activity"  
        },  
        {  
          "id": "https://linuxsaas.dev.dominknow.com/FlowFeature/activities/course/100286",  
          "objectType": "Activity"  
        }  
      ]  
    }  
  }  
}
```

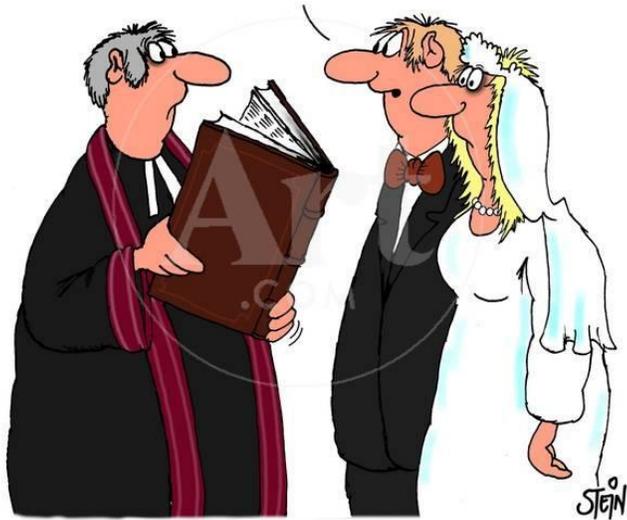


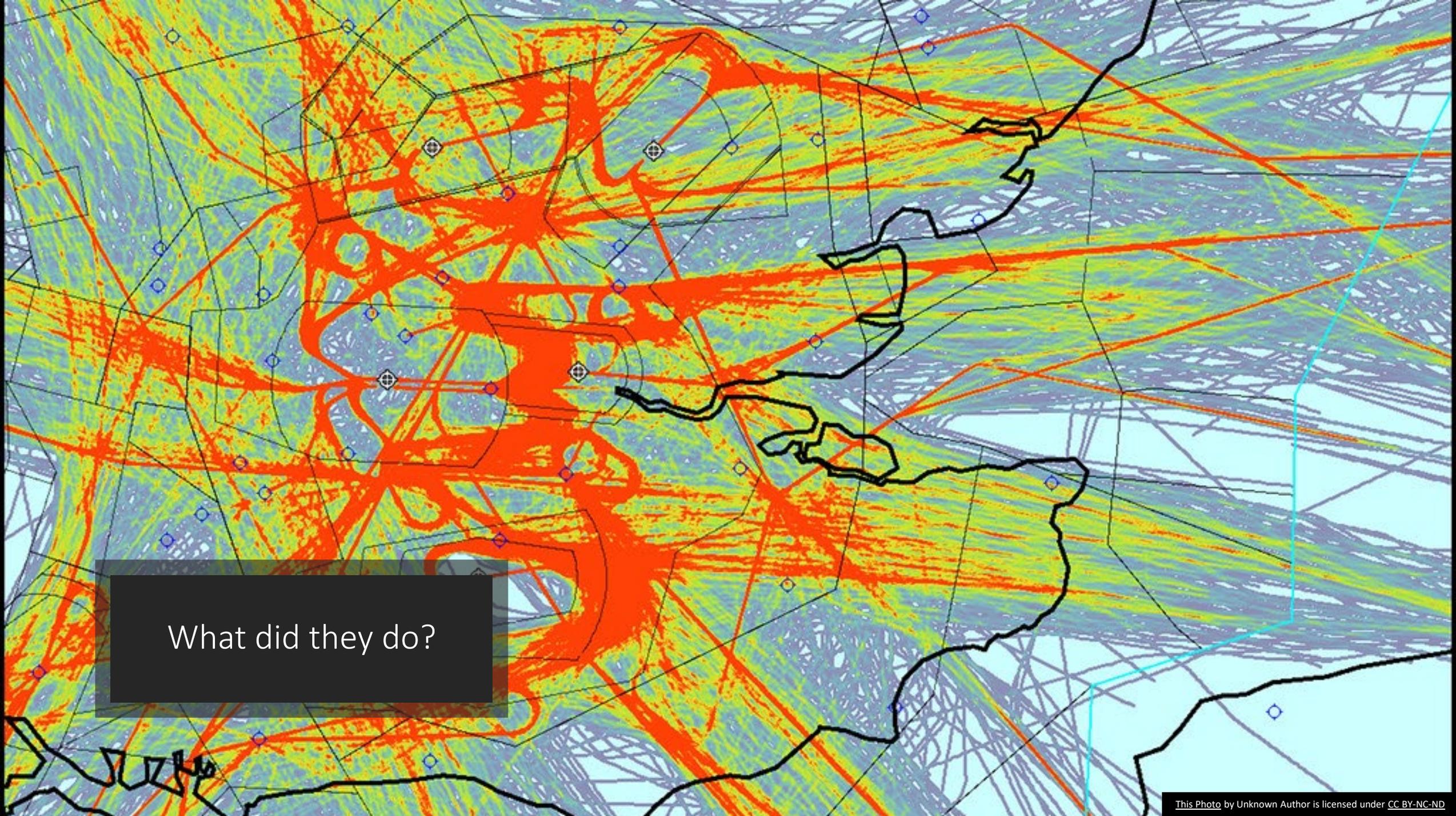
# Time to Really Learn!



# Collaborative Learning?

BEFORE I GIVE YOU MY FINAL ANSWER,  
CAN I ASK THE AUDIENCE OR CALL A FRIEND?





What did they do?

What Could  
You Do?



"Your recent Amazon purchases, Tweet score and location history makes you 23.5% welcome here."