"Making Learning and Teaching Fun Again!" - Strategies to Improve Learner Engagement and Retention

Kadriye O. Lewis  
*Children's Mercy Hospital, kolewis@cmh.edu*

Jennifer Colombo  
*Children's Mercy Hospital, jmcolombo@cmh.edu*

Christian Lawrence

Kenya McNeal-Trice

Mark Chandler

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“Making Learning and Teaching Fun Again!” – Strategies to Improve Learner Engagement and Retention

Kadriye O. Lewis, Ed.D
Jennifer Colombo, MD
Children's Mercy Hospital, Department of Pediatrics
UMKC School of Medicine, Kansas City, MO

Christian Lawrence, MD
Kenya McNeal-Trice, MD
UNC Department of Pediatrics,
UNC School of Medicine, Chapel Hill, NC

Mark Chandler, MD
Duke University, Department of Pediatrics,
Duke University Medical Center, Durham, NC

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Disclosure

✓ Kadriye O. Lewis, Ed.D
✓ Jennifer Colombo, MD
✓ Christian Lawrence, MD
✓ Kenya McNeal-Trice, MD
✓ Mark Chandler, MD

We have nothing to disclose with respect to this presentation.
Session Objectives

As a result of attending this session, you will be able to:

- Define “active learning” for medical learners, including different types of active learning approaches
- List techniques, strategies, and practical online tools (Kahoot, Pick 5, Heads up!, Yammer) for incorporating active learning into medical teaching
- Examine innovative teaching strategies to discuss methods, aims, pedagogical properties, the role of the learners and facilitators, including strengths and possible challenges of various learning situations
- Outline higher-order thinking strategies to increase learner engagement in order to improve retention
Agenda

Welcome and Introductions
Warm Up: Human Bingo
Overview of Active Learning
Micro-Teaching 1: Kahoot / Breakout Session
Micro-Teaching 2: Pick 5 / Breakout Session
Micro-Teaching 3: Heads Up! /Breakout Session
Micro-Teaching 4: Yammer / Breakout Session
Pulling It All Together & Wrap up
**Human Bingo**

**Introductions: Human Bingo**

**Directions:** Find people who fit these descriptions by asking them questions. Do not show each other your Bingo Card. Write your people names in when they fit the description. You cannot use the same person more than three times and you can’t use your own name on your sheet. Get to know the workshop participants!

<table>
<thead>
<tr>
<th>Someone who heard about historian Charles Bonwell</th>
<th>Someone who likes to drink tea</th>
<th>Someone wearing black socks</th>
<th>Someone who exercises daily</th>
<th>Someone who is the oldest child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Someone who heard about psychologist James Eison</td>
<td>Someone who plays a musical instrument</td>
<td>Someone who has a birthday this month</td>
<td>Someone who has gone to a concert within the past year</td>
<td>Someone who speaks a second language</td>
</tr>
<tr>
<td>Someone who has traveled to the State of Missouri</td>
<td>Someone who doesn’t like to fly in a plane</td>
<td><strong>FREE</strong></td>
<td>Someone who knows about “Heads Up”</td>
<td>Someone who heard about “Kahoot”</td>
</tr>
<tr>
<td>Someone who knows at least three active learning strategies</td>
<td>Someone who has presented in this conference</td>
<td>Someone born in the same month as you</td>
<td>Someone who drives a red car</td>
<td>Someone who does Yoga</td>
</tr>
<tr>
<td>Someone who has heard of constructivist learning theory</td>
<td>Someone who has lived in another country</td>
<td>Someone whose favorite color is blue</td>
<td>Someone who knows about “Yammer”</td>
<td>Someone who likes spicy food</td>
</tr>
</tbody>
</table>
Knowledge Check!

Pop Quiz!

Rise Module Link: http://tinyw.in/wsxe
Overview of Active Learning
Learning is an active process. We learn by doing. Only knowledge that is used sticks in your mind.

Dale Carnegie
What is Active Learning?

• The English scholar, **Reginald W. Revans**, the originator of “**action learning**,” had invented and developed this method in the United Kingdom in the 1940s.

• Two Missouri State professors, historian **Charles Bonwell** and psychologist **James Eison** coined the term “**active learning**” (1991).

• Active learning instructional strategies include a wide range of activities that share the common element of - involving students in doing things and thinking about the things they are doing (Bonwell & Eison 1991).
What is Active Learning?

Engage learners in:

• Thinking critically or creatively
• Speaking with a partner in a small group, or with the entire class
• Expressing ideas through writing
• Exploring personal attitudes and values
• Giving and receiving feedback
• Reflecting upon the learning process
Basic Elements of Active Learning

Doing/Engaging

- Reading
- Thinking
- Talking and listening
- Writing
- Involving
- Problem Solving
- Interacting
- Discussing
- Reflecting
- Teaching
- Applying
- Acting
Why Active Learning?

• Increase learner participation and engagement
• Engage learners in deep rather than surface learning
• Take ownership of learning
• Prepare learners for the future is by empowering them in the moment. self-directed
• Promote learner-centered instruction (less lecturing by instructor)
• Promote higher order thinking skills
• Increase learner retention
Why Active Learning?

<table>
<thead>
<tr>
<th>WHAT WE REMEMBER</th>
<th>OUR LEVEL OF INVOLVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% of what we read</td>
<td>Reading</td>
</tr>
<tr>
<td>20% of what we hear</td>
<td>Hearing Words</td>
</tr>
<tr>
<td>30% of what we see</td>
<td>Looking at pictures</td>
</tr>
<tr>
<td>50% of what we hear and see</td>
<td>Watching a movie</td>
</tr>
<tr>
<td>70% of what we say</td>
<td>Looking at an exhibit</td>
</tr>
<tr>
<td>90% of what we both do and say</td>
<td>Watching a demonstration</td>
</tr>
<tr>
<td></td>
<td>Seeing it done on location</td>
</tr>
<tr>
<td></td>
<td>Participating in a discussion</td>
</tr>
<tr>
<td></td>
<td>Giving a talk</td>
</tr>
<tr>
<td></td>
<td>Doing a dramatic presentation</td>
</tr>
<tr>
<td></td>
<td>DOING THE REAL EXPERIENCE</td>
</tr>
<tr>
<td></td>
<td>DOING THE REAL THING</td>
</tr>
</tbody>
</table>

Image Source: https://pbs.twimg.com/media/BAKuothCQAAoH1L.jpg
The Theoretical Basis of Active Learning

CONSTRUCTIVIST THEORIES

COGNITIVE CONSTRUCTIVISM
(Jean Piaget)

- Concepts
  - Schema
  - Assimilation
  - Accommodation
  - Equilibration

- Principles
  - Learning is an active rather than passive process.
  - Learning should be whole, authentic and "real" to be effective.

SOCIAL CONSTRUCTIVISM
(Lev Vygotsky)

- Social Interaction
- Psychological Tools
  - Language
- The More Knowledgeable Other (MKO)
- The Zone of Proximal Development (ZPD)
- Scaffolding
  - Tutoring

Image Source: https://www.pinterest.com/pin/335377503492283671/?lp=true
The Theoretical Basis of Active Learning

- **SOCIAL-COGNITIVE PROCESSES** (Cooperative Learning)
  - ESSENTIAL CONDITIONS:
    - Group Reward or Recognition
    - Individual Accountability

- **BLOOM’S TAXONOMY** (Benjamin Bloom)
  - KNOWLEDGE
  - COMPREHENSION
  - APPLICATION
  - ANALYSIS
  - EVALUATION
  - CREATION

- **COMPLEX LEARNING PROCESSES**
- **HIGH LEVEL THINKING** (High Order Thinking Skills)
  - CRITICAL THINKING
  - CREATIVE THINKING MODEL (Calvin Taylor)
  - COMPONENTS
    - domain-relevant skills
    - task motivation
    - creativity-relevant skills

- **CONCEPT LEARNING**
- **PROBLEM SOLVING**
  - CREATIVE PROBLEM SOLVING (Isaksen & Treffinger)
    - Mess Finding
    - Data Finding
    - Problem Finding
    - Idea Finding
    - Solution Finding
    - Acceptance Finding

- **CREATION**
- **RECURRENT THEMES** (Dewey)
  - Avoid jumping to conclusions.
  - Examine assumptions.
  - Generate new ideas.
  - Evaluate evidence.

Image Source: https://www.kisspng.com
“The same styles you used earlier may become monotonous over time. You want to remain relevant, so you got to change that style. Reinvent yourself always: You must create a new you” ~Israelmore Ayivor
Micro-Teaching #1: Kahoot
What is Kahoot?

1. **As a teacher:
   - **Quiz**: Choose from multiple answers
   - **Jumble**: Drag answers in correct order
   - **Survey**: Gather audience's opinions

2. **As a student:
   - **Socially**
   - **At work**

[Children's Mercy Kansas City]
Why Kahoot?

- Engages learners and allows them to apply their medical knowledge
- Provides instant feedback and gives the presenter an opportunity to teach important topics and key points
- Competition adds a fun element to keep learners engaged
- Helps the learner recognize key terms and buzzwords needed to successfully answer board exam questions
Demonstration
Getting Started

kahoot.it

Game PIN

XXXXX
How to create quizzes
1. Create an account!
2. Create your quiz
3. Select kahoot type
4. Enter your title

Title (required)

Description (required)

A #math #blindkahoot to introduce the basics of algebra to #grade8

Location

My Kahoots

Visibility

Only you

Language

English

Theme

K\H\H\

Credit resources


5. Add questions
How to use Kahoot!
Join at kahoot.it
With game-pin:
95689

0 Players

Kahoot!

Waiting for players...

Start now
Students can give themselves any name, but you can kick them from the login if you do not like that name.
Join at kahoot.it

With game-pin: 38944

Kahoot!

Players

Joel 2    Joel 1

Start now
On the web browser

On the computer/tablet or device.
And the winner is...

Joel 1

with 900 kahoots!

✓ 1 correct

× 1 incorrect

kahoot.it  Game-pin: 38944
Final scoreboard

<table>
<thead>
<tr>
<th>Joel 1</th>
<th>900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joel 2</td>
<td>883</td>
</tr>
</tbody>
</table>

Ratings | Download results | Favourite ★

Play again | Play a different Kahoot!

More info at getkahoot.com

kahoot.it  Game-pin: 38944
Game-pin: 38944

How fun was it?

Did you learn something?

Do you recommend it?

To continue, tell us how you feel?
You can download results, reaction times and also feedback on an Excel spreadsheet or web page to evaluate the learning of the students and highlight where there may need to be follow up work.

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>ANSWER 1</th>
<th>ANSWER 2</th>
<th>ANSWER 3</th>
<th>ANSWER 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is this?</td>
<td><em>Rachel Stevens</em></td>
<td><em>Amy Winehouse</em></td>
<td><em>Stephanie Powers</em></td>
<td><em>Pat Young</em></td>
</tr>
<tr>
<td>- No. of answers</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>- Average answer speed</td>
<td>-</td>
<td>12.6</td>
<td>-</td>
<td>11.5</td>
</tr>
<tr>
<td>- % correct</td>
<td>50.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STUDENT</th>
<th>ANSWER</th>
<th>TIME (seconds)</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joel 1</td>
<td>Pat Young</td>
<td>11.5</td>
<td>0</td>
</tr>
<tr>
<td>Joel 2</td>
<td>Amy Winehouse</td>
<td>12.6</td>
<td>883</td>
</tr>
</tbody>
</table>

SWITCH TABS BELOW TO VIEW YOUR SCORES & END OF GAME RATINGS
Kahoot Breakout Session

Guided discussion questions:
1. What are the pedagogical characteristics of this innovating teaching method?
2. How to promote higher-order thinking strategies in this teaching method?
3. Can this teaching method be utilized in your teaching situations? If not, what are the most pressing issues that may hinder use of this teaching technique?
4. What else is important to capture in this teaching method?
5. What is the next step or the key takeaways for this active teaching and learning method?
“Spoon feeding in the long run teaches us nothing but the shape of the spoon.”

~ E.M. Forster
Micro-Teaching #2: Pick 5

Making Medical Education Come Alive
Outline of Pick-5 Presentation

• Overview of Pick-5 and why it works
• Game Play of Pick-5
• The Greatest Part of Pick-5
• Variations of Pick-5
What is Pick-5

An interactive, group based medical educational game with the purpose of building medical knowledge and increasing deductive reasoning skills.
Why does Pick-5 Work?

INVOLVED ADULT LEARNERS
Adults need to be involved in the planning and evaluation of their instruction.

1

ADULT LEARNERS’ EXPERIENCE
Experience (including mistakes) provides the basis for the learning activities.

2

In 1984, Knowles suggested 4 principles that are applied to adult learning:

PROBLEM-CENTERED
Adult learning is problem-centered rather than content-oriented. (Kearsley, 2010)

3

RELEVANCE & IMPACT TO LEARNERS’ LIVES
Adults are most interested in learning subjects that have immediate relevance and impact to their job or personal life.

4
Pick-5 Overall Game Play

• Medical students, residents and attendings are split into 4-6 groups
• Each group requests a finite amount of additional information on History of Present Illness (HPI) section, physical exam section and lab work/imaging section
  – Each groups requested additional information and subsequent answers are confidential
• Each group submits top 2 differential diagnosis after the HPI and physical exam sections and a final diagnosis after the lab work/imaging section
  – All answers are kept confidential until the game is completed
HPI: 2-year-old male with no PMHx who presented from the PCP to the ED for evaluation of fever and stiff neck. Two days ago, he developed worsening fatigue and fussiness. Yesterday, he was more limp, sleepier and would initially cry when moved. This morning, he was evaluated by the PCP and was febrile to 100.9 and complained of neck pain with movement. No headaches or photophobia. Given these findings, he was sent to the ED for further evaluation.

Additional HPI Questions:

Differential Diagnosis List #1:

1.
2.
3.
4.
5.

Final Diagnosis:
Pick-5 Overall Game Play

- HPI + Three additional questions = 4 minutes total
- Differential Diagnosis #1 = 2 minutes total
- Physical Exam = 2 minutes
- Differential Diagnosis #2 = 2 minutes total
- Lab work-up = 4 minutes total
- Final diagnosis and initial management = 5 minutes total

Total Time = 19 minutes**
Pick-5 Answer Distribution

• Pencil and paper

Welcome to Pick-Five! Please DO NOT begin until you are instructed.
# Pick-5 Differential Diagnosis

<table>
<thead>
<tr>
<th>Team</th>
<th>Differential #1</th>
<th>Differential #2</th>
<th>Final Diagnosis</th>
</tr>
</thead>
</table>
| Team #1    | 1. Acyanotic Heart Disease  
2. Sepsis                                                    | 1. Acyanotic Heart Lesion  
2. Sepsis                                             | 1. Coarctation             |
| Team #2    | 1. Sepsis  
2. Metabolic Disorder                                          | 1. Sepsis  
2. Acyanotic Heart Lesion                                 | 1. Interrupted Aortic Arch                            |
| Team #3    | 1. Sepsis  
2. Acyanotic Heart Disease                               | 1. Acyanotic Heart Lesion  
2. Sepsis                                             | 1. Aortic Stenosis                                  |
| Team #4    | 1. Sepsis  
2. Metabolic Disorder                                          | 1. Acyanotic Heart Lesion  
2. Metabolic Disorder                                      | 1. Coarctation            |
Pick-5 Answer Slide

Important History Questions

Physical Exam Findings

Labs and Images

Diagnosis
Pick-5 Variations

• High Value Care

• Pick-5 in Tiers: Medical Students → Residents → Attendings
Pick-5 Questions?
Pick-5 Demonstration

http://bit.ly/Pick5Presentation

Or

Paper Templates
Guided discussion questions:
1. What are the pedagogical characteristics of this innovating teaching method?
2. How to promote higher-order thinking strategies in this teaching method?
3. Can this teaching method be utilized in your teaching situations? If not, what are the most pressing issues that may hinder use of this teaching technique?
4. What else is important to capture in this teaching method?
5. What is the next step or the key takeaways for this active teaching and learning method?
Break (10 Minutes)
Micro-Teaching #3: Heads Up!
What is Heads Up?

Video Source: https://www.youtube.com/watch?v=PO_ezpX7DwY
Why Heads Up!

• Allows for simple, fun, interactive teaching at any place and any time!
• Provides an opportunity for instant feedback and discussion
• Promotes higher level discussion as opposed to simply guessing the correct answer
• Helps the learner recognize key terms and buzzwords
Demonstration
How to Use Heads Up?

• In order to use Heads Up! You will need to buy the "Build Your Own Deck"
• It is $0.99 to purchase and customize. However, you can keep customizing that ONE deck all you want without paying anymore.
• If you want to save that deck for longer and want another one, THEN you have to buy another Build Your Own Deck for $0.99.
How to Use Heads Up?

- Once you've bought the customizable deck, it will move into the playable deck area.
- Click on it, and press CUSTOMIZE!!
How to Use Heads Up?

- Once you press CUSTOMIZE, you can type in a title. When you have a title you want, click EDIT YOUR CARDS.
- The screenshots show how you will add YOUR CARDS and what the list will look like. Simply click in the space where I have typed "Add Here" and your own words/numbers.
Guided discussion questions:
1. What are the pedagogical characteristics of this innovating teaching method?
2. How to promote higher-order thinking strategies in this teaching method?
3. Can this teaching method be utilized in your teaching situations? If not, what are the most pressing issues that may hinder use of this teaching technique?
4. What else is important to capture in this teaching method?
5. What is the next step or the key takeaways for this active teaching and learning method?
I Think
I Question
I Design
I Create
I Struggle
I Collaborate
I Try
I Solve
I Invent
I Reflect
I Learn
Micro-Teaching #4: Yammer

[Image showing My Launch Pad with Yammer and OneDrive icons]
What is Yammer?

Yammer is a social networking tool to openly connect and engage across your organization.

✓ Use the Discovery feed to stay on top of what matters, tap into the knowledge of others, and build on existing work
✓ Use your Inbox to view, prioritize, and manage the most important messages and announcements
✓ Search for experts, conversations, and files
✓ Join groups to stay informed, connect with your community, and gather ideas
✓ Join in the conversation, like, reply to, and share posts
✓ Attach a file, gif, photo, or video to enhance your post
✓ Praise someone in your network to celebrate a success, or just to say thanks
✓ Create and edit documents, take notes, and share resources as a group
✓ Use polls to crowd source feedback and get answers fast
✓ Stay connected away from your desk with the Yammer mobile app
Accessing Yammer

Yammer can be accessed using a tile on the RM Unify Launchpad.

Or using the ‘waffle’ in Office 365.
How to Create a Group?

Create a New Group

INTERNAL GROUP
To collaborate with people inside your company.

EXTERNAL GROUP
To collaborate with people who work at other companies.

Group Name

Group Members

+ Add people to this group by name or email

Who can view conversations and post messages?

- Public Access: Anyone in this network can view conversations and post
- Private Access: Only group members can view conversations and post
  ✔ List this group in our network's group directory and search results.

Create Group
Public and Private

Public groups
Messages that are posted in a public group in Yammer are displayed in the All Conversations and Unread Conversations view for every member of the group. Additionally, people who are not members of the public group can view messages on the group's page.

Anyone in the network can join a public group.
Public and Private

Private group
Messages that are posted in a private group in Yammer are displayed in the All Conversations and Unread Conversations view for every member of the group.

However, people who are not a member of the private group can't view messages on the group's page.
Public and Private

Private group
Messages that are posted in a private group in Yammer are displayed in the All Conversations and Unread Conversations view for every member of the group.

However, people who are not a member of the private group can't view messages on the group's page.
How to Share Conversation?
Download Yammer App!

Choose your mobile device:

Android  iOS  Windows Phone

Set up and use the Yammer iOS app

1. If you don’t have Yammer installed, download it from the App Store
2. Type your Office 365 work or school account. Tap Log in.

![Yammer Login](image-url)
Sample Yammer

2019 PAS Workshop

Click here to add a description to this group.

NEW CONVERSATIONS  ALL CONVERSATIONS  FILES  SEARCH

Update  Poll  Praise  Announcement

Share something with this group...

Kadriye Lewis – 3 minutes ago
https://share.nearpod.com/O9JkWTfK3V

Nearpod Lessons: Download ready-to-use content for education
No mobile devices in your classroom? No worries! You can enjoy Nearpod from any web browser. Create, share.nearpod.com

LIKE  REPLY  SHARE

KL  Write a reply

MEMBERS (6)

INFO
Click here to edit this section.

GROUP ACTIONS

View Group Insights

PINNED  Add

Add files or links that are important to this group.

ACCESS OPTIONS

Subscribe to this group by email
Post to this group by email

Children's Mercy
Kansas City
Yammer Breakout Session

Guided discussion questions:
1. What are the pedagogical characteristics of this innovating teaching method?
2. How to promote higher-order thinking strategies in this teaching method?
3. Can this teaching method be utilized in your teaching situations? If not, what are the most pressing issues that may hinder use of this teaching technique?
4. What else is important to capture in this teaching method?
5. What is the next step or the key takeaways for this active teaching and learning method?
Tips for Active Learning

✓ Describe your role and responsibilities as a teacher in the active learning setting
✓ State expectations and clarify the role of your learners in the active learning environment
✓ Be assertive, but not defensive, by setting out the value of the learner-centered active learning approach, its benefits for engagement and learning for the learners’ future
✓ Clearly communicate your philosophy on teacher and learner roles in the active learning up front
✓ Incorporate assessments with activities
✓ Start off simple (low risk)
✓ Ask questions and be attentive to learners’ questions
✓ Have learners rely on each other
Challenges/Barriers for Faculty to Use Active Learning Strategies

✓ You cannot cover as much course content in the time available
✓ Devising active learning strategies takes too much pre-class preparation
✓ Large class sizes prevents implementation of active learning strategies
✓ Most instructors think of themselves as being good lecturers
✓ There is a lack of materials or equipment needed to support active learning approaches
✓ Students may resist non-lecture approaches

What are your concerns about using active learning activities and techniques?
Wrap Up

During this session, we have covered the following items:

• Explained the origin of “active learning” (Bonwell & Eeison, 1991) with the theoretical basis (Constructivist Learning Theory) including different types of active learning approaches

• Illustrated active teaching techniques/strategies, and introduced practical online tools (Kahoot, Pick 5, Heads up! Yammer) for incorporating active learning into medical teaching

• Examined the four teaching strategies above to discuss methods, aims, pedagogical properties, the role of the learners and facilitators, including strengths and possible challenges of various learning situations

• Discussed the higher-order thinking strategies to increase learner engagement in order to improve retention
Quick Reflection

1. What are the **three things you gained from this workshop?**
2. What are the **two things you will use right away?**
3. What is **one thing you want to learn more about?**
References

Thank You!

Kadriye O. Lewis, Ed.D
Director of Evaluation and Program Development
Professor of Pediatrics
Children's Mercy Hospital, Department of Pediatrics, UMKC School of Medicine, Kansas City, MO
Ph: (816) 302-3235
Email: kolewis@cmh.edu

Jennifer Colombo, MD
Associate Professor
Children's Mercy Hospital, Department of Pediatrics, UMKC School of Medicine, Kansas City, MO
Ph: (816) 302-3034
Email: jmcolombo@cmh.edu

Christian Lawrence, MD
UNC Department of Pediatrics
UNC School of Medicine, Chapel Hill, NC
Email: Christian.lawrence@unchealth.unc.edu

Mark Chandler, MD
Medical Instructor in the Department of Medicine
Duke University, Department of Pediatrics
Duke University Medical Center, Durham, NC
Ph: (919) 681-4080
Email: Mark.Chandler@duke.edu

Kenya McNeal-Trice, MD
Pediatric Residency Program Director
Associate Professor
University of North Carolina School of Medicine
Chapel Hill, NC
Ph: (919) 843-1114
Email: