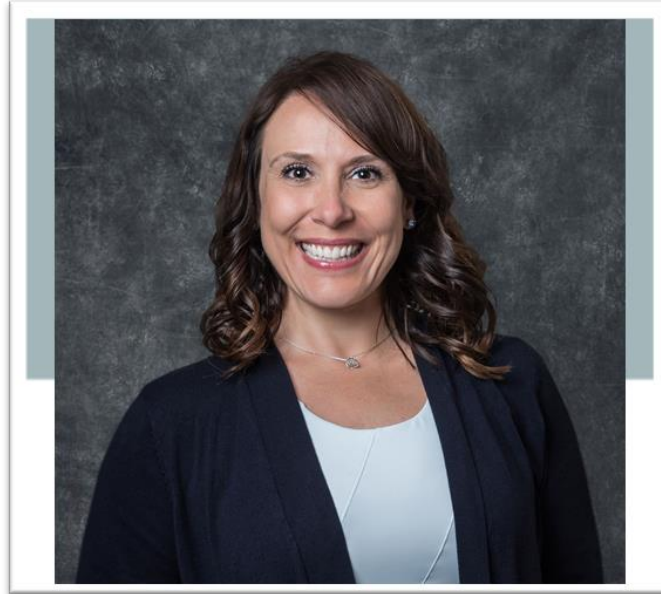


# ScholarRx Office Hours

*Special Topic:* The Rx Bricks Flipped Classroom  
Active Learning Experience





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# Housekeeping

Show/Hide the GoToWebinar interface



Mute/Unmute your microphone



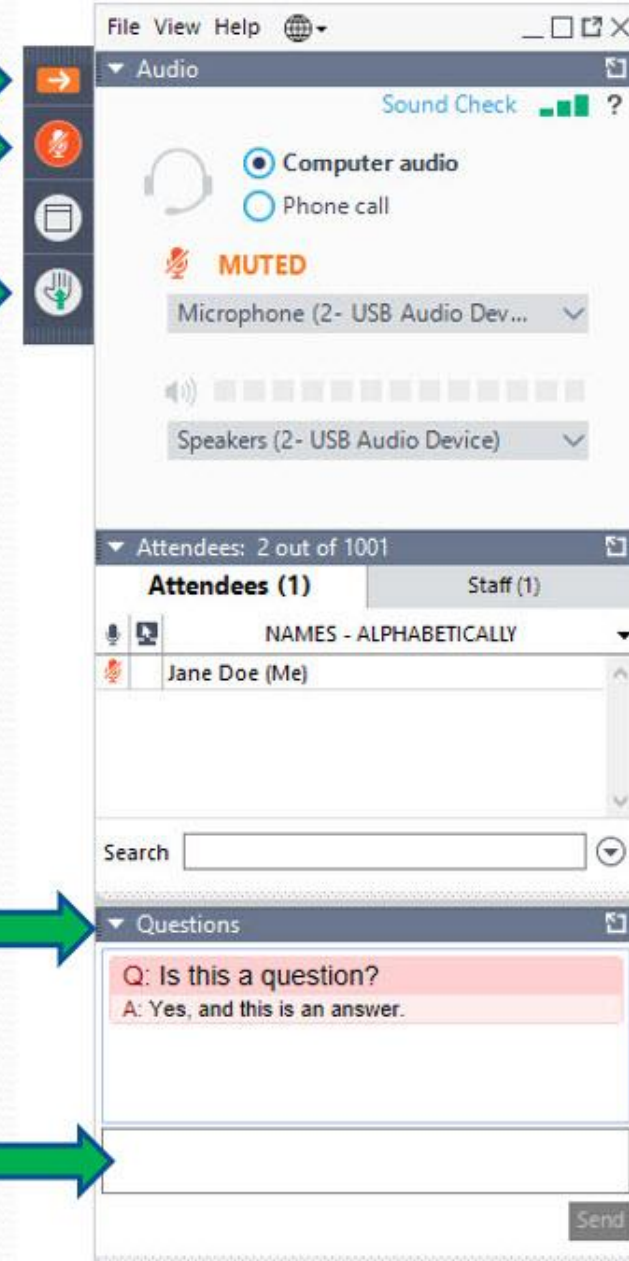
Raise your hand



Open/Close Questions tab



Type your questions/comments here



The screenshot shows the GoToWebinar interface with several panels. At the top is the 'Audio' panel with options for 'Computer audio' (selected) and 'Phone call'. Below that is a 'MUTED' indicator and a dropdown menu for 'Microphone (2- USB Audio Dev...)'. A volume slider is visible. Below the audio panel is the 'Attendees' panel, showing 'Attendees (1)' and 'Staff (1)'. The attendees list is sorted 'NAMES - ALPHABETICALLY' and shows 'Jane Doe (Me)'. Below the attendees panel is a search bar. At the bottom is the 'Questions' panel, which is currently open. It shows a question 'Q: Is this a question?' and an answer 'A: Yes, and this is an answer.' Below the questions panel is a text input field for typing questions or comments, and a 'Send' button.

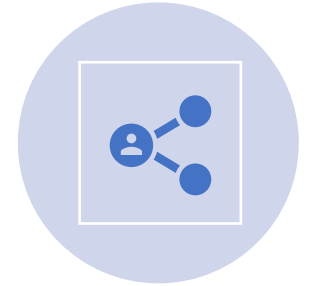
Education platform  
providing integrated  
teaching and learning  
modalities



INSTRUCTIONAL  
CONTENT



CONTENT  
CREATION



SHARING




PERFORMANCE &  
ANALYTICS



ASSESSMENT

# Student Resources




**Rx Bricks**

- short, high-yield, interactive lessons called “bricks”



**Step 1 Qmax**

- 2,500+ Board-style questions with full explanations **shared by faculty & students**



**Step 1 Flash Facts**

- 10,000+ flash cards with spaced repetition algorithm (Study Stream)



**Step 1 Express Videos**

- 80-90 hours of high yield videos



**Step 2 CK Qmax**

- 2300+ Board-style questions with full explanations



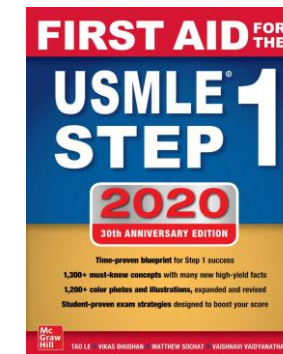
# Faculty Resources

## *Faculty Dashboard*

- Tool kit for incorporating all resources into guided activities, engaged learning strategies, and assessments
- Explore and track student usage & performance

## *Knowledge Base*

- Resources and articles to support medical school instructors who are using USMLE-Rx





Dr. Amber J. Heck, PhD  
Director of Basic Science Education  
ScholarRx  
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*Using RxBricks and Qmax questions, you will be able to:*



**Apply** essential learning principles to educational practices.



**Create** session plans and resources that align with best practices in instructional design.



**Construct** integrated, flipped classroom, active learning experiences that support the application of knowledge.



# What is your biggest barrier to creating active learning experiences?

**A** Discomfort with design and delivery

**B** Lack of time for preparation

**C** Limited time in class

**D** Negative student perceptions

**E** Skepticism of the benefits





## Case-Based Learning

*25 min*

## Conclusion and Questions

*20 min*



# CASE STUDY



**Dr Stan Osis**

---

Associate Professor

5<sup>th</sup> year as teaching faculty

Physiologist

Course director for Cardiovascular  
System 1 Course

- The school is undergoing a curriculum revision under a newly appointed Dean.
- The new Dean is an experienced medical educator who desires to implement best practices such as integration and outcomes-based education.
- The Curriculum Committee approves a plan for the Phase 1 curriculum, which will consist of eight, integrated, organ-system based courses, delivered over 18 months. The curriculum will be delivered according to the flipped classroom, active learning model.
- Dr Osis is appointed the Course Director for the new Cardiovascular, Respiratory, and Renal Course.
- The faculty will receive training and new resources, including ScholarRx 360 accounts.



- The previous Cardiovascular System 1 course consisted of large group lecture, with a review session at the end of each week.
- During the review sessions, Dr Osis presented board-style multiple choice questions, with the goal of applying the content delivered during the week to clinical scenarios.
- Dr Osis begins to redesign his course materials. His biggest concern is his limited time.
- He begins his planning with one of his favorite topics, blood pressure. He reviews his lectures from last year.

<b>Week 2: Cardiovascular System 1</b>		
<b><i>Monday</i></b>	<b><i>Wednesday</i></b>	<b><i>Friday</i></b>
<b><u>Arterial Pressure and Circulation</u></b>	<b><u>Autonomic Regulation of Blood Pressure</u></b>	<b><u>Regulation of Arterial Pressure</u></b>
<b>Lecture</b>	<b>Lecture</b>	<b>Active Learning Review Session</b>

# Cardiovascular Course

## Week 2, 2021

Friday review consisted of board-style questions testing the same objectives.

The questions included clinical scenarios of shock.

### Arterial Pressure and Circulation

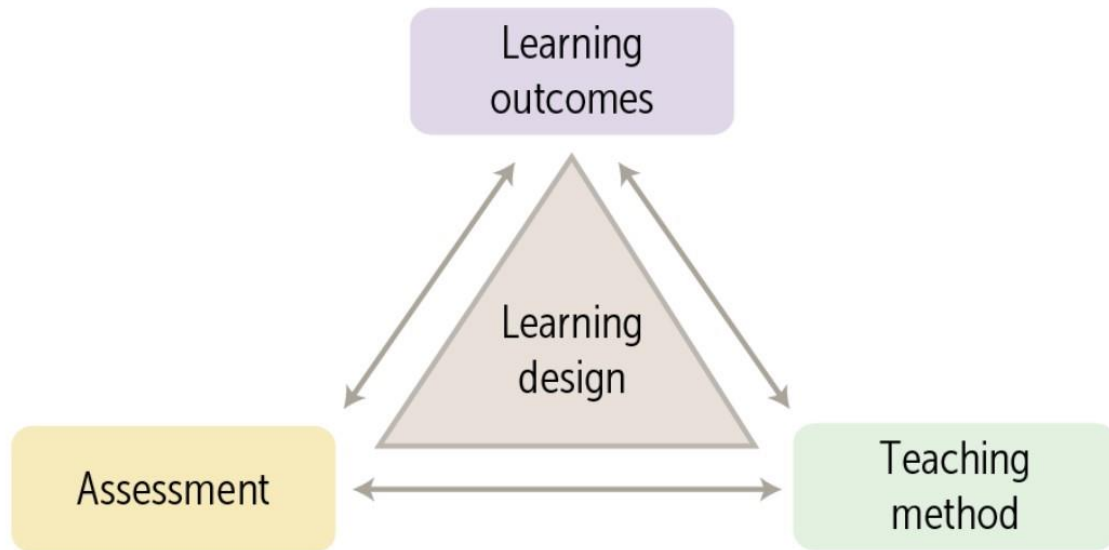
1. Define arterial blood pressure, systolic pressure, and diastolic pressure.
2. Describe the influence of vascular compliance on flow and velocity.
3. Predict the change in mean arterial pressure based on cardiac output and systemic vascular resistance.

### Autonomic Regulation of Blood Pressure

1. Describe the anatomical components of the baroreceptor reflex.
2. Explain how baroreceptors detect to and respond to changes in pressure.
3. Define sequence of events within the baroreceptor reflex.

***What do you recommend as the next best step for Dr. Osis?***

# *Learning Outcomes: Design with the End in Mind!*



*First*, consider what learners should take from the learning experience.

*Then* how you will assess it.

*Finally*, how you will structure the lessons to achieve these goals.

***What should the learners be able to do at the end of this session?***



Dr. Osis and colleagues create a ***session goal*** and a set of ***integrated learning outcomes***.

Integrate knowledge of the regulation of blood pressure and the pathophysiology of shock to recognize the form and stage of shock and select the next steps in management of the patient in shock.

1. Illustrate the relationships between the determinants of blood pressure.	Physiology
2. Correlate the signs and symptoms of shock to the mechanisms of blood pressure regulation and the pathologic mechanisms of disease.	Pathology, Emergency Medicine
3. Predict the hemodynamic changes that will occur in a shock scenario.	Physiology, Emergency Medicine
4. Compare and contrast the mechanisms of vasopressors, inotropes, and vasodilators.	Pharmacology
5. Prioritize management strategies according to the underlying cause of shock.	Pharmacology, Emergency Medicine

## Higher Order Learning Outcomes

## Integration of Basic and Clinical Sciences

Integrate knowledge of the regulation of blood pressure and the pathophysiology of shock to recognize the form and stage of shock and select the next steps in management of the patient in shock.

- |  |   |
|--|---|
| 1. <b>Illustrate</b> the relationships between the determinants of blood pressure.   | <b>Physiology</b>                               |
| 2. <b>Correlate</b> the signs and symptoms of shock to the mechanisms of blood pressure regulation and the pathologic mechanisms of disease. | <b>Pathology,<br/>Emergency<br/>Medicine</b>    |
| 3. <b>Predict</b> the hemodynamic changes that will occur in a shock scenario.   | <b>Physiology,<br/>Emergency<br/>Medicine</b>   |
| 4. Compare and contrast the mechanisms of vasopressors, inotropes, and vasodilators.   | <b>Pharmacology</b>                             |
| 5. Prioritize management strategies according to the underlying cause of shock.  | <b>Pharmacology,<br/>Emergency<br/>Medicine</b> |



# Which of the following active learning methods do you feel best supports these learning outcomes?

A

Case-based learning

B

Peer instruction

C

Problem-based learning

D

Socratic questioning

E

Team-based learning



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Constructivist Learning Theory

---

Integration

---

Active Learning

---

Flipped Classroom

---

Retrieval-Based Practice

---

Spiral Curriculum

---

FAIR Principles

---

Cognitive Load Theory

---

Teacher Presence




## Flipped Classroom:


The team identifies RxBricks to serve as *prework*.

Title	Learning Objectives:
<b>Blood Pressure: Foundations and Framework (RxBricks)</b>	<ol style="list-style-type: none"><li>1. Define blood pressure and contrast systolic and diastolic blood pressure.</li><li>2. Explain how gravity, vascular compliance, blood viscosity, and blood inertia contribute to blood pressure.</li><li>3. Explain how cardiac output, systemic vascular resistance, and blood volume interact to regulate blood pressure.</li><li>4. Describe the role of the nervous system and kidneys in short- and long-term blood pressure regulation.</li></ol>
<b>Baroreceptor Regulation of Blood Pressure (RxBricks)</b>	<ol style="list-style-type: none"><li>1. Define the baroreceptor reflex and diagram its major anatomical components.</li><li>2. Explain how changes in arterial blood pressure affect the baroreceptor reflex.</li><li>3. Define the Bainbridge reflex, explain how it controls heart rate, and describe its clinical significance.</li></ol>
<b>Shock (RxBricks)</b>	<ol style="list-style-type: none"><li>1. Define shock.</li><li>2. Diagram the components of oxygen delivery to tissues.</li><li>3. Describe the main types of shock based on cardiac output, afterload, and preload status.</li><li>4. Understand the primary insult in the different forms of shock and the body's compensatory mechanisms.</li><li>5. Describe the clinical presentation of the different forms of shock.</li><li>6. Describe the treatment of the different forms of shock.</li></ol>
<b>Vasopressors, Inotropes, and Vasodilators (RxBricks)</b>	<ol style="list-style-type: none"><li>1. Describe the use of fluid resuscitation in shock.</li><li>2. Identify vasopressors and understand their mechanisms of action.</li><li>3. Describe the various inotropes and their mechanisms of action.</li><li>4. Describe how vasodilators are used for patients with cardiogenic shock.</li><li>5. Identify the side effects and toxicities of the drugs used for shock.</li></ol>

## Customize the Learning Experience



## Clear Objectives Guide Asynchronous Learning



Title	Learning Objectives:
<b>Blood Pressure: Foundations and Framework (RxBricks)</b>	<ol style="list-style-type: none"><li>1. Define blood pressure and contrast systolic and diastolic blood pressure.</li><li>2. Explain how gravity, vascular compliance, blood viscosity, and blood inertia contribute to blood pressure.</li><li>3. Explain how cardiac output, systemic vascular resistance, and blood volume interact to regulate blood pressure.</li><li>4. Describe the role of the nervous system and kidneys in short- and long-term blood pressure regulation.</li></ol>
<b>Baroreceptor Regulation of Blood Pressure (RxBricks)</b>	<ol style="list-style-type: none"><li>1. Define the baroreceptor reflex and diagram its major anatomical components.</li><li>2. Explain how changes in arterial blood pressure affect the baroreceptor reflex.</li><li>3. Define the Bainbridge reflex, explain how it controls heart rate, and describe its clinical significance.</li></ol>
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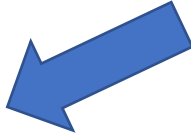


The team decides to use Peer Instruction and uses Qmax questions throughout the session.

A 56-year-old man is brought to the emergency department 30 minutes after slicing his arm while chopping wood, leading to significant blood loss. His blood pressure is 92/58 mm Hg. On examination, he appears lethargic and pale. His extremities are cool to the touch.

Which set of findings would most likely represent this patient's condition within the first 30 minutes of the injury?

Choice	Heart rate	Total peripheral resistance	Renin	Cardiac contractility
A	↓	↓	↓	↓
B	↓	↑	↑	↑
C	↑	↓	↑	↑
D	↑	↑	↑	↓
E	↑	↑	↑	↑



Align Assessments with  
Learning Outcomes

QID#	Learning Outcome
3874.19	Relate the signs and symptoms of cardiogenic, hypovolemic, and obstructive shock to the underlying pathologic mechanisms of each.
1029.27	Predict the hemodynamic changes that will occur when presented with a clinical scenario of a patient in cardiogenic, hypovolemic, or obstructive shock.
1037.21	Compare and contrast vasopressors, inotropes, and vasodilators according to the mechanism of action and selection strategies.
1039.18	Distinguish management strategies for cardiogenic, hypovolemic, and obstructive shock according to whether the goal is to stabilize the patient or treat the underlying cause of shock.

# Which option do you NOW feel most confident in when using RxBricks to design a flipped classroom active learning experience?

A Creating opportunities to plan, monitor, and evaluate

B Meeting the needs of the adult learner

C Reducing the extraneous cognitive load

D Supporting meaningful integration

E Supporting the active construction of knowledge



# Benefits to Faculty

Reduce	Reduce barriers to active learning and interdisciplinary collaboration
Reduce	Reduce the time required for preparation of active learning
Prioritize	Prioritize in-class time for active learning
Maintain	Maintain teaching presence during asynchronous time with annotations
Customize	Customize or create pre-work assignments with annotations, cloning, and Bricks Create
Refine	Refine curriculum content to only what is relevant
Promote	Promote awareness of what is covered in other parts of the curriculum



# Q&A

## The ScholarRx Brick Builder Grant

Apply Now



Deadline:  
April 15,  
2022

### Description

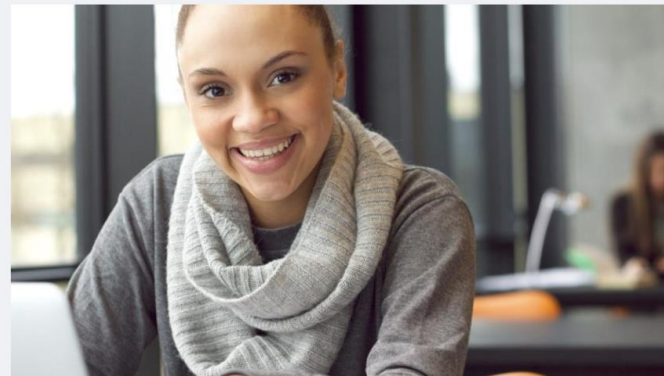
ScholarRx is pleased to announce a new grant program for educators and students\* who want to develop and share new curriculum. Schools and instructors across the globe have begun using **Rx Bricks Create** to build new learning experiences for students, and we want to offer this groundbreaking \$25,000 grant program to support and amplify these efforts.

Up to 50 grants of \$500 will be awarded based on a competitive process. Please reference the application requirements, and limit to 500 words, excluding references. The form and application criteria are found below.

Each grant will provide:

- > \$500 in funding for the successful application
- > Access to the ScholarRx curriculum authoring platform and the complete **Rx Bricks** digital library
- > ScholarRx training/support for orientation

\*Student applicants are welcome with a faculty advisor/reviewer





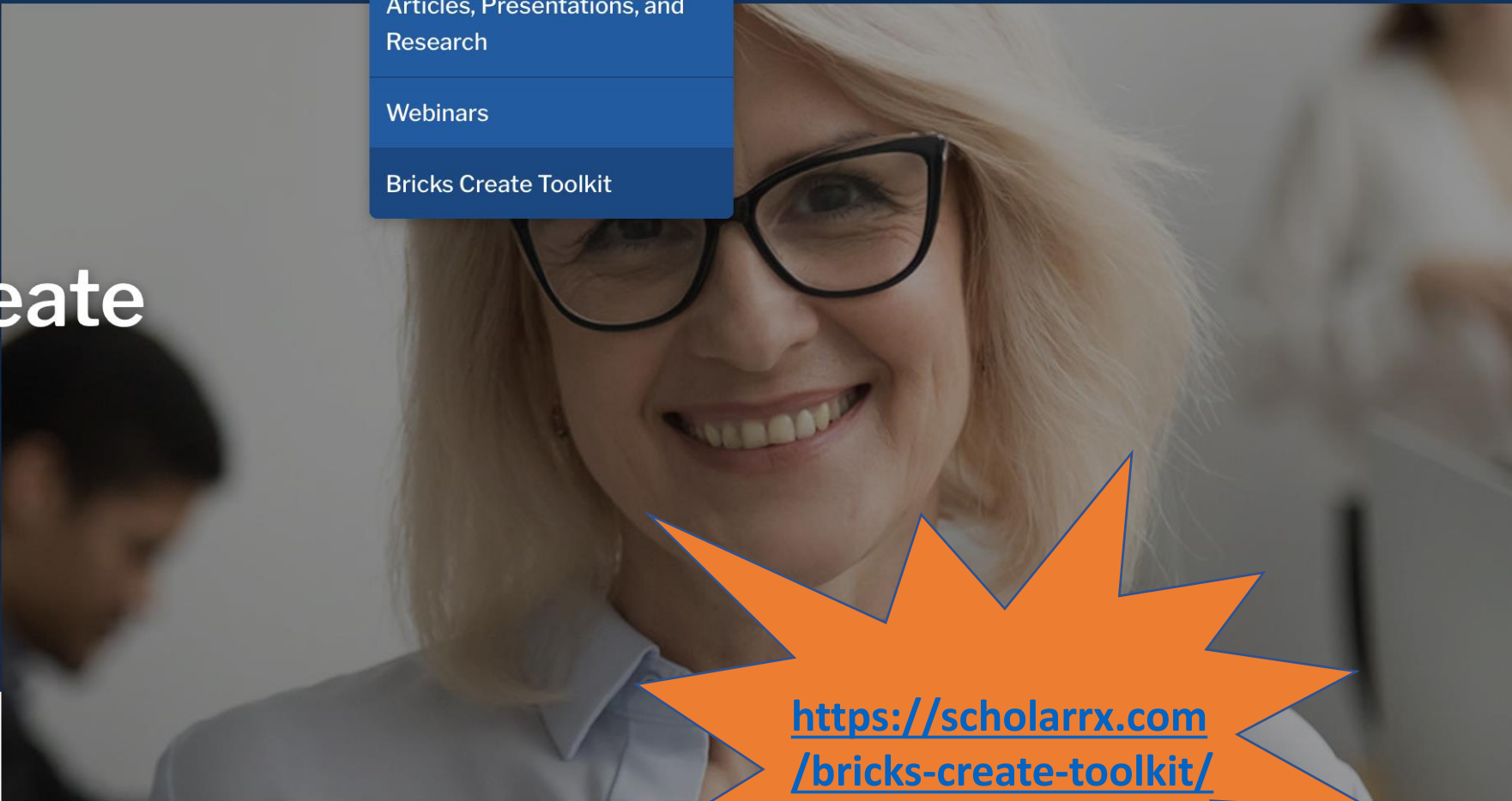
Articles, Presentations, and Research

Webinars

Bricks Create Toolkit

*Bricks Create*

# The Bricks Create Toolkit



<https://scholarrx.com/bricks-create-toolkit/>

## Bricks Create Toolkit

> [About Bricks Create](#)

> [Getting Started with Bricks](#)

## Overview

[Launch Bricks Create!](#)

Rx Bricks Create is an authoring platform designed to help faculty spend less time churning out content and



# ScholarRx Office Hours for Faculty



## Upcoming Webinars

➤ Qmax Management

➤ Rx Bricks

## ScholarRx Office Hours for Faculty

You are always there for your students and ScholarRx is there for you. If you are in the middle of a semester and need a refresher or you just have questions, an Academic Support Office is the best place to go.

Join us for our newly launched webinar series: ScholarRx Office Hours. These webinars are held twice a month and focus on the following areas:

## Qmax Management

**Interested in Formative Weekly Problem Sets?** We know many of our school partners are implementing shorter, more frequent formative assessments. This webinar will discuss the benefits of these assessments and how to implement them effectively.



<https://scholarrx.com/office-hours/>

Does your school not currently offer Rx Bricks or Bricks Create?

Or just want to learn more?

**Contact us:** <https://scholarrx.com/contact-2/>

**Thank you for joining!**

# ScholarRx Office Hours

*Special Topic:* The Rx Bricks Flipped Classroom  
Active Learning Experience

