

Default Question Block

This survey is intended to gather opinions concerning the use of shared teaching materials for advanced manufacturing processes related courses. You may know that we received an award from the National Science Foundation (NSF) to conduct three workshops to investigate “Shared Teaching Materials for Advanced Manufacturing” (STAM). The first workshop was conducted in conjunction with the IISE annual meeting in Orlando, Florida on May 18, 2019. The purpose of the workshops was to gather ideas and plan a larger proposal to NSF to support this concept of creating a repository for manufacturing teaching materials. The repository would hold print modules/text chapters, presentation slides, laboratory exercises, quizzes, tests, homework, and video presentations related to a variety of manufacturing topics.

We feel that a focused technical community of college educators can share their experiences and materials so that a broad compilation of educational materials can be provided to participating schools that will catalyze and advance the development of this important topic/area. We also feel that this repository will serve as the seed for an “organic set of teaching materials”, which will continue to grow over time.

This survey represents some general categories associated with developing such a repository, and is focused on trying to overcome some of the obstacles associated with the funding and operation of such an entity. The survey is divided into three major categories: 1) Utility, 2) Necessary Tools and Technology, and 3) Sustainability. This “organic set of teaching materials” will continue to grow as a focused technical community of college educators share their technical experiences, materials and teaching experiences so a broad compilation of educational materials can be provided to participating schools. This will catalyze advances in both the teaching and the technology for modern manufacturing.

Name of Institution

Rank

- Adjunct Instructor
- Assistant Professor
- Associate Professor
- Professor
- Department Head

Full Name (optional)

Name of Department

Name of manufacturing course(s) taught

Text used in the course(s)

About You and Your University

Which best describes your college or university?

- Community College
- Research 1 University
- Non-research 1 University
- Other

Which best describes your department?

- Industrial engineering
- Mechanical engineering
- Manufacturing engineering
- Other

Which best describes your teaching experience?

- 0-10 years
- 10-15 years
- 15-20 years
- > 20 years

I/We currently use the following book to teach manufacturing processes:

- Groover
- Degarmo, Black, Kosher
- Kalpakjian
- Other

Our program has

- no laboratory experience for students
- some laboratory experience for students (Please provide a url if available)
- extensive laboratory experience for students (Please provide a url if available for the lab)

Utility for a Technical Repository

Instructor Point-of-View

The time currently required to develop course materials for advanced manufacturing instruction is

- much higher than for a typical engineering course
- somewhat higher than a typical engineering course
- about the same as any engineering course
- somewhat less than a typical engineering course
- much less than a typical engineering course

If a repository of existing materials (lecture slides, self-help videos, reading materials), for advanced manufacturing was available for university instructors to utilize, the **time required for course preparation** would be

- significantly reduced
- somewhat reduced
- remain about the same
- somewhat increased
- significantly increased

If a repository of existing materials for advanced manufacturing was available for university instructors to utilize, the **quality and content** of the course would be

- significantly improved
- somewhat improved
- remain about the same
- somewhat decreased
- significantly decreased

Would you be willing to contribute learning material to the STAM Repository?

- No, I am firmly against openly sharing lecture material with the community.
- Yes, I would not mind contributing content to the STAM Repository.
- I would be involved in the development and use of the STAM Repository, but I will not contribute my materials.

If a repository of existing materials for advanced manufacturing was available for university instructors to utilize, **the breadth of the materials covered** in the course would be

- significantly increased
- somewhat increased
- neither increased or decreased
- somewhat decreased
- significantly decreased

Rate the usefulness of each STAM Repository component to course instruction and student learning.

	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful
Customizable pre-prepared lecture slides covering advanced manufacturing topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lecture slides with audio explaining content in the slides	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High-quality, non-commercial use of notes, with appropriate graphics and figures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-help videos of manufacturing processes and laboratory step-by-step tutorials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful
Quizzes and test/exam materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community blogs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rate the usefulness of the STAM Repository in facilitating connections to manufacturing and design educators.

	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful
Collaborating on for STAM Repository material could connect me to leaders in the field	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using STAM would likely connect new/junior faculty who have a passion for education in this domain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using STAM could potentially connect with me a teaching mentor; and collaborative content creation can provide a mentoring opportunity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
STAM could potentially connect industry to academic leaders in this field	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

List up to three (3) utility/quality outcomes that could affect faculty course preparation and offering not listed above but important for the use of a course repository.

- 1
- 2
- 3

Student Point-of-View

Students enrolled in a course that utilizes a repository, will likely

- have far better/easier access to timely materials
- have a somewhat better/easier access to timely materials
- have the same access to materials
- have a little worse access to timely materials
- have far worse access to timely materials

Because of frequent updates to a repository, students enrolled in a course that utilizes a repository, will likely

- be exposed to far more current and timely materials
- be exposed to somewhat more current and timely materials
- have the same access to timely materials
- have a somewhat diminished set of current and timely materials
- have far more diminished set of current and timely materials

List up to three (3) utility/quality outcomes that could affect students taking a repository-based course not listed above but important for the use of a community accessible course repository.

- 1
- 2
- 3

Tools/Technology

Using a web-based repository to prepare an advanced manufacturing course will

- present more difficulties for monitoring and controlling a course teaching site

- be about the same difficulty for monitoring and controlling as for any other course
- reduce difficulties for monitoring and controlling a course teaching site

The STAM Repository should be

- developed and maintained by a professional "for-profit" publishing company
- developed and maintained by a nonprofit company/organization
- developed and maintained by a professional society, e.g., IISE, SME, and ASME
- developed and maintained by a university IT staff
- developed and maintained by a community of national and international Instructors
- other

The STAM Repository should be open to (choose as many as appropriate)

- all students
- students registered for the repository course only
- all university faculty
- only advanced manufacturing instructors
- only advanced manufacturing instructors registered for a repository course
- anyone with web access

Evaluation rubrics (homework, quizzes and tests) need to be secured, but their availability will

- eliminate significant development time for tests, quizzes and homework for instructors
- eliminate some development time for tests, quizzes and homework for instructors
- have no effect on development time for tests , quizzes and homework
- increase some development time for for tests , quizzes and homework for instructors
- significantly increase development time for tests , quizzes and homework for instructors

The security for a repository system used by administrators, instructors and students will be

- impossible to maintain
- difficult to maintain
- no different to maintain than the current system
- easy to maintain

List up to three (3) technology/tools issues that could affect utilizing a Repository-based course not listed above but important for the use of a Course Repository.

- 1
- 2
- 3

Sustainability

It has been predicted that the cost to students will potentially be reduced by using a repository so that a textbook can be eliminated. The time to develop course materials for the instructors will also be reduced; however, maintenance and updates for a repository will require time and expertise. The quality and consistency of repository materials will also need to be reviewed routinely so that a STAM Repository can be sustainable.

The cost associated with developing and maintaining an advanced manufacturing repository should be

- funded by a foundation
- self-funded by the users (students and instructors)
- maintained by a professional society to do as they see fit
- maintained by a nonprofit organization
- maintained by a for-profit organization

Instructors developing materials for the repository should

- give freely of their time to develop new materials for the repository
- be paid for their work and efforts in developing new materials for the repository

be recognized for their contributions (like a citation of IP) in developing new materials for the repository

An economic model for developing and using an advanced manufacturing repository

- is needed prior to any development of such a repository
- is needed but cannot be created until the repository has been developed
- is not particularly important because the value is obvious
- is difficult to create

How likely will you or your institution be willing to pay a nominal subscription fee to help maintain the STAM Repository infrastructure?

- Definitely
- Most likely
- Probably
- Definitely not

One of the sustainability requirements for creating an “organic” repository that will renew and evolve is the constant development and renewal of new materials by instructors. Select all below all that you feel apply.

- It is not particularly important that instructors who develop materials for the repository are given credit for their contributions since teaching is part of their job
- Credit should be similar to developing a “technical paper” where a list of authorship is maintained by the repository. Use of the material will be like a citation for professional work.
- Contributors should be paid for their time and efforts associated with developing a repository. Without this component, the repository will not be sustainable.

List up to three (3) sustainability issues that will affect utilizing a repository-based course not listed above but important for the use of a course repository.

- 1
- 2

3

Students enrolled in a course that utilizes a repository, will likely

- have a far better experience in taking a course due to timely materials and shared exams and quizzes
- have a somewhat better experience in taking a course due to timely materials and shared exams and quizzes
- have about the same experience as participating in a traditional course
- have a somewhat worse experience in taking a course using the repository
- have a far worse experience in taking a course using a repository

If the repository contained videos and data from lab experiments that would illustrate concepts, would you

- not need or use them
- welcome the opportunity to include that content as appropriate for my course

Do you wish to receive an honorarium for completing this survey?

- Yes (Please fill in your mailing information below)
- No

Full Name

Email

Address

Address #2

City

In which state do you currently reside?

Zip Code

In which country do you currently reside?

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