AI for Teachers

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ANALYZE

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Background

Derby North Middle School (Derby, KS) has requested a short professional development session on how artificial intelligence can be used in the classroom. The event will take place amid back-to-school inservices and teacher preparation time. DNMS serves students in 6-8 grade, and has over 50 full time teachers employed. Their attitudes towards AI vary greatly, from fully uninformed to fearful/anxious to embracing the possibilities. The training needs to increase the teachers' knowledge of AI and also provide them with several opportunities to explore products that use AI that could make their teaching easier/more effective.

Audience

The audience will be 50+ full time teachers. Most of the teachers are caucasian, with a very small population of African American and Middle Eastern teachers. Over 75% of the teachers are women, and all are over the age of 22. All have college degrees, with a minimum requirement of attaining a bachelor's degree, and over half the teachers have a master's degree. Knowledge of the topic of this session varies in participants, as mentioned above. Learners will have a variety of abilities, both physical (with visual, auditory, and motor impairments) and cognitive (ADHD, dyslexia, depression, OCD, etc.) exceptionalities. Teachers, when in the role of learners, are notorious for lack of focus ("catching up," planning, etc.) and apathetic attitudes towards professional development, so the principal has requested hands-on learning for at least part of the session.

Learning Event Profile

Desired Learning Outcomes

The principal would like teachers in attendance to achieve these outcomes:
Knowledge: what is AI, how can teachers utilize AI to make teaching easier
Skills: use of available resources to make teaching and assessing easier
Attitudes: increase in positive attitudes towards AI, decrease in fear/anxiety towards it
Behavior: willingness to experiment with AI and using it professionally

Learning Objectives (Bloom's Taxonomy Level)

- The learner will be able to describe what AI is in teaching contexts. (Understand)
- The learner will be able to experiment with how AI applications can be utilized. (Analyze)
- The learner will be able to construct a lesson for their classrooms using AI tools. (Create)

Learning Environment

Location: Derby North Middle School, Cafetorium
Length: up to 30 minutes
Format: In person
Time: Mid-Morning

Limiting Factors

Resources: None provided but all teachers have a district-provided Macbook Air and Wifi access
Time: Must be less than 30 minutes
Financial Factors: Must be done for free
District Wifi Filters: Many AI sites are blocked to register for usd260 domain emails. A gmail account will be set up and registered for all exploration websites so that teachers can explore them without having to use their personal emails.

DESIGN

Media

Media Type (Source)

Video (Youtube)
Presentation Platform (Curipod to encourage AI use through exposure)
Embedded Presentation (Canva to compensate for Curipod's limited design capabilities)
Assessment (digital polling on Curipod, submission of planned lesson, Google Form)
Text (Instructional Designer, online resources)
Job Aid of available AI applications and category (Digital, Instructional Designer-created)

Available Resources

Macbook Air laptops (district-provided)
Wifi
Large open area (cafetorium at Derby North Middle School)
Seating (Tables- up to 6 per)
Stage
Projection Screen and Projector with AirPlay
Televisions (6, wall-mounted)
Physical Materials: pencils, paper, sticky notes, notecards, etc.

Methods

Learner Interaction

Learning will take place in collaborative groups in a large group setting. Participants will be in groups of up to 6 learners, and will participate in group and individual activities. Groups will be based on content area, to facilitate actual, relevant planning at the end of the session. Though teachers dislike being told to move, the benefit of allowing teachers to work together to develop a usable product will outweigh the annoyance of moving. Learners will be given the freedom to work in partnerships (each grade level has 2 teachers per content level, with 6 total in the school) instead of the entire content team, as appropriate.

Initial work will be done together, with a mixture of activities, presentation, and exploration. The second half of the session will allow teachers time to explore and create a lesson or content for their classroom use, submitting to ID and Principal for an informal evaluation.

Foundational Learning Theory

Constructivism: The purpose of this lesson is to overcome teacher concerns and negative mindsets towards artificial intelligence and encourage them to utilize it in their professional lives. Because of this, it is really important that the teachers in the session are able to construct their own meaning about how AI could be useful to them. Teachers don't want to have another tool thrown in their face- when this is the case, the tools are often ignored and eventually forgotten. Constructivism says that knowledge is built by

participants actively creating meaning and relevance instead of just passively gained. Because the principal desired hands-on components to the learning module, I felt that a constructivist approach would be appropriate. Teachers will engage in activities that connect new learning to prior knowledge and experiences, and allow them to [hopefully] come to their own conclusion that AI is not intimidating and is in fact easy to implement in our profession. They will be able to find their own learning and meaning through hands-on exploration of the digital applications that are the ones available during the year.

Equity and Inclusion

All images will have relevant ALT tags or be tagged as NULL for decorative images. Physical sort is done in groups or partners so that any physical impairments will not stop participation in the activity. Graphics and distractions will be minimized to help attention-challenged individuals. Nothing in the learning event will be represented through wholly visual or wholly audible information, so that people with visual impairments and people who are hard of hearing can have equal access to the information. Activities are designed to be completed flexibly- whether by individuals, in partners, or in groups. This is intentionally done to accommodate shy or anxious individuals who would otherwise be distracted by being forced to work collaboratively. Appropriate contrast and colors will be verified by a contrast and color-blindness checker.

Event

Time	Event	Description	Rationale	Assessment
Pre-Event	Background Survey Media: Google Forms Survey	Students will receive email with a link to a survey from the principal to take.	In order to measure a change in behavior or mindset, we have to know what it is at the start of the event, so we can know if it changed.	Pre-Assessment to measure potential attitude change
While logging in to the program- will take place as learners arrive to engage them after settling and prime their brains for the content	Entry Word Cloud Media: Poll slides (Curipod)	Students will answer the word cloud poll after logging in to Curipod.	The Principal would like to see not only teachers using AI in the classroom but also having a more open and positive mindset towards it. This will measure their before and after mindsets.	Pre-Assessment to measure potential growth in knowledge.
0:00.00-0:02.00 (2 minutes)	Introduction to Topic	Presenter introduces the topic to students,	This provides the audience with a topic and what to	None

	Media: Slide 1 (Curipod)	the plan for this session, and gives a brief definition of artificial intelligence.	expect for the rest of the session. It also gives them a common definition to use when completing the next activity.	
0:02.00-0:03.00 (1 minute)	Relevance-Setting Media: Physical sorting activity (cards on table) AI: Self-Driving Cars, Virtual Assistants, etc.	Students will sort technology examples into non-AI and AI to build connections to where they would have encountered AI in the past, which will uncover prior knowledge or identify misconceptions.	Most hesitant teachers don't realize that they have been using AI already. This makes connections to real life, allows them to see that they've used it before and it's not scary, and activates prior knowledge of AI interactions through relevant examples.	Discussion afterwards will help to identify misconceptions and prior knowledge.
0:03.00-0:05.00 (2 minutes)	Attention-Gathering and Topic Introduction Media: Ameca & Emotions (Canva-embedded slides, Curipod slide 4)	Presenter will show a quick clip of Ameca, which is what most people picture when they picture "scary AI."	Example of possible misconceptions of AI in general, increase interest/ engagement, and show that fear can be funny, prompt discussion.	None
0:05.00-0:10.00 (5 minutes)	Context Building Media: Canva-embedded slides (Curipod, slide 4)	Presenter will give a quick explanation of AI- enough that there is understanding of what it does and how it differs from technology.	Many teachers are uninformed about what AI is and how it can affect them as teachers (with ease of planning but also student cheating).	None
0:10.00-0:11.00 (1 minute)	Personalized Feedback Question	Students will answer the question, "What is	This gives teachers a segue into considering how	Informal- Responses can help presenter

	Media: Slide 5 with open-ended question with AI-provided feedback (Curipod)	one way you can see AI helping you teach or plan?"	to integrate AI into their teaching and planning practice.	identify misconceptions, boundaries, or excellent ideas.
0:11.00-0:16.00 (5 minutes)	AI Tool Overview Media: Canva-embedded slides (Curipod, slide 6)	Presenter will walk students through four tools (one for each helpful domain of teaching or planning), and facilitate discussion on how it could be used in their practice.	Teachers will be exposed to a variety of instruments in different difficulty levels. This widens their exposure and gives them more tools in their toolbox.	None
0:16.00-0:26.00 (10 minutes)	Exploration Media: Canva-embedded activity slide (end of Canva presentation in Curipod slide 6)	Teachers will be given an exploration activity to complete with their content team, working together to use AI to develop a lesson.	Hands-on experience will make the learning more memorable, and allow teachers to experiment in a comfortable environment, with someone to help if they run into trouble. They will also leave with a usable lesson, which creates value and buy-in.	Formal Summative- teachers submit their created lesson to the principal for evaluation.
0:26.00-0:29.00 (3 minutes)	Exit Survey Media: Slides 7-9 with embedded survey questions (Curipod)	Presenter facilitates the ending survey (3 questions, with 1 minute timers) to gauge teachers' continued mindsets and willingness to implement AI in their planning.	In order to measure a change in behavior or mindset, we have to compare what it is at the start of the event, to what it is at the end of the event. This allows us to measure growth or change..	Formal Summative- Feedback gives the presenter a measure of attitude and/or mindset changes, in addition to understanding student basic learning.

0:29.00-0:30.00 (1 minute)	Summary and Thanks Media: Curipod, Slide 10	Presenter answers any remaining questions and thanks participants for attending and listening.	Presenter can summarize the learning, identify changes to future implementations based on feedback and existing questions, and thank participants for their time.	None.
Post-Event	Send out the follow up survey immediately upon completion of the event. Media: Post-Event Survey (Google Forms)	This survey collects data on teachers' mindsets and growth in learning. It is a short Google Forms page that is anonymous.	In order to measure a change in behavior or mindset, we can compare it to mindsets/ information collected from the beginning of the session.	Post-Assessment to measure potential attitude change
Bi-Weekly Check-Ins	Blurbs in the Week at a Glance sent out by the Principal. Media: Tech Talk section in Week at a Glance (sent via Gmail, designed in Canva)	Every other week, a new AI application or use will be highlighted in the "Tech Talk" column of the Week at a Glance.	Repeated exposure and reminders will help the information to stay fresh in teachers' minds, as well as provide additional resources for teachers to try out if they desire.	Check-Ins will help to keep the topic fresh in the minds of the teachers, and will provide additional resources that were not able to be covered, given the time limit.

Feedback and Personalization

Learners will provide feedback before and after the learning event. Feedback collected before the event will be used to tailor the content to appropriate levels. Feedback collected after the event will be used to evaluate the potential change in mindsets and growth in knowledge. A third survey may be used at the Principal's discretion to measure actual AI usage later in the year (this is still under consideration, not fully approved).

To address a variety of learning styles and preferences, this event will include hands-on activities, videos, and presentations. Activities will be collaborative or independent, at the choice of the learner so that anxious or reserved learners will not be forced into uncomfortable situations. A variety of media types will also be used to encourage engagement. Learners will also leave the event with a finished product, which makes the learning event more meaningful.

DEVELOP

Drafting

Components Needed

After the learning objectives and activities were identified, a list was created of needed components for the learning event. These included things such as the spectrum sort activity cards, the instructor guide, the pre- and post-surveys, interactive slides, presentation slides, and follow-up content. These were then placed on a production schedule, so that they would be generated in a timely manner. No roles were assigned, as all tasks were carried out by the Instructional Designer.

Additional Considerations

During development, it was noted that the district filters blocked many AI sites (filters apply to both teachers and students), and prohibited signing up for accounts at these sites. Because of this, an alternate login was created and used to register for each website shown in the presentation, providing all learners with equal access to the content.

Production

Production Schedule

After the necessary components were identified, they were placed onto a three week production schedule, with tasks each day to complete. The product went through three rounds of edits, resulting in the final product linked to each component.

Week	Monday	Tuesday	Wednesday	Thursday	Friday
Week One	Pre- and Post-Event Surveys	Canva Presentation, Part 1	Canva Presentation, Part 2	Canva Presentation, Part 3	Media Sourcing (video clips) and Embedding
Week Two	Curipod Interactive Slides	Spectrum Sort Activity Cards	Instructor Guide	Follow-Up Content	Usability Testing
Week Three	Corrections based on feedback	Continued Usability Testing	Corrections based on feedback	Final Usability testing and Corrections	Final check and submit for approval

Instructional Materials

Physical

Spectrum Sort Cards

Instructor Guide

Digital

Pre-Assessment Survey in Google Forms
Follow-Up Survey in Google Forms
Presentation slides in Curipod
Embedded Canva presentation (Part 1, Part 2, Part 3)
Tech Talk section in Principal's Weekly Memo (In Progress)
AI and Teachers Optional eLearning

Evaluation

Usability Testing

During usability testing, individuals and small groups (no large groups of relevant learners were available or easily-accessible) went through the learning event, taking notes on areas of improvement and delight. Significant changes to pacing and order of activities resulted based on user feedback. The design and layout was changed a few times to make the presentation slides more easily understood and succinct. Seductive details and extraneous information were removed as needed.

IMPLEMENT

Design and Content Evaluation

Before Training

Initial responses to the pre-event survey were limited, but this result was mostly to be expected. Teachers were still on summer break at that time, and there is no requirement for them to check and/or respond to emails. Because of this, the limited information was used to create the course content, but will need to be adapted based on the final feedback after the learning event.

While Training

Teachers seemed engaged with the material, but some struggled with the content. It seems that more time in this session would have been beneficial to help students create meaning from the content. Because the basics of AI were glossed over, there were still some misconceptions present at the end over what constitutes an AI or not. The activities (spectrum sort and interactive slides) were well-received and the learners seemed to enjoy them. Follow up activities have not been sent yet, so there has been no feedback possible on those.

After Training

Final surveys collected revealed that most learners felt positively about the learning event, and were able to take away some valuable information. Willingness to implement AI in the classroom varied widely, from some teachers being far more accepting of it than others. Because no identifying information was collected, it is difficult to tell if there were any connecting factors between learners who were and were not willing to implement AI. Feedback from learners shows that more time spent using the actual tools would have been beneficial.

EVALUATE

Identified Learning Objectives (from Analysis Phase)

1. The learner will be able to describe what AI is in teaching contexts. (Understand)
2. The learner will be able to experiment with how AI applications can be utilized. (Analyze)
3. The learner will be able to construct a lesson for their classrooms using AI tools. (Create)

Results

Objective 1 Achievement

This objective was measured through the use of pre- and post-event surveys. Across respondents, around 75% were able to more successfully describe what AI is in the context of their profession. Desired responses should have focused on how AI can be used to assist in planning and evaluation, as well as providing individualized feedback and speedy content generation (once fact-checked).

Objective 2 Achievement

This objective was measured through informal observations by the presenter during the learning event. Because it was informal observations, concrete data was not collected, and not all students were evaluated. Most students seemed fairly comfortable with trying our new applications, though some still showed hesitancy. No students were unwilling or non-compliant, and all worked with at least one of the applications.

Objective 3 Achievement

This objective was measured through the submission of created lessons to the principal after the learning event. While individual lessons were not shared with the instructional designer, principal feedback was very positive and enthusiastic. Principal had no suggestions for changes or improvements.

Reflection

Implications for Future Events

Before the next presentation (to teachers at the other Derby middle school), some adaptations will need to be made based on instructor observation, student feedback, and the Evaluation phase of ADDIE. First, if possible, next sessions should be longer than 30 minutes, so that teachers can have more hands-on time to experience multiple AI tools. Google Survey should also be changed to collect demographic information if the participant is willing, so that possible connections can be made between demographics and hesitancy/flexibility in implementing AI to their planning and professional lives. For future presentations, more background information and connections to prior experiences would be helpful to assist students in assigning meaning and importance of the information.

ADDIE INFORMATION

Source

Kurt, Dr. S. (2018, December 16). *Addie Model: Instructional design*. Educational Technology. https://educationaltechnology.net/the-addie-model-instructional-design/

Reasoning

While I have had the opportunity to utilize ADDIE once before, in the context of planning a learning event, I had never actually completed the whole process. I found myself at somewhat of a loss of where to begin. Because of this, I searched online for an ADDIE template that would help offer more guidance than I had been given before. I used the website above to find actionable suggestions for what should be included in each of the five sections.