

K-12 Blended Teaching: Elementary Education Edition

Bridgette Joskow, Jered Borup, Chawanna Bethany Chambers, & Nicole Sandrowicz

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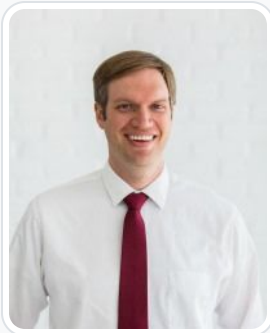
Joskow, B., Borup, J., Chambers, C., & Sandrowicz, N. (2022). *K-12 Blended Teaching: Elementary Education Edition*. EdTech Books. https://edtechbooks.org/k12blended_eled



Bridgette Joskow

George Mason University

Bridgette Joskow is a Fairfax County Public Schools 5th grade teacher. She is originally from New York, which is where she received her undergraduate degree in Early Childhood and Childhood from SUNY New Paltz. After moving to Fairfax County Virginia, she began teaching 5th grade, which she has taught for the last 8 years. Once she got her feet in the classroom and began working with a diverse range of students, she became enthralled with the idea that technology can bring students with learning disabilities to the same level as their General Education peer. This led Bridgette to go on and graduate with her Masters Degree in Blended and Online Learning from George Mason University. In 2021 Bridgette was nominated for the Fairfax County Public Schools Outstanding Teacher Award. Bridgette's current goals are to help her students rise into being collaborative and independent learners as well as support other educators in engaging and building blended learning communities in their classrooms. She enjoys creating new and engaging projects that give students choice and ownership over their learning.



Jered Borup

George Mason University

Jered Borup is the professor-in-charge of George Mason University's Blended and Online Learning in Schools Master's and Certificate programs that are devoted to improving teacher practices in online and blended learning environments. Previous to earning his Ph.D. at Brigham Young University, Jered taught history at a junior high school for six years. He has also taught online and blended courses since 2008. His current research interests include developing online learning communities and identifying support systems that adolescent learners require to be successful in online environments. A full list of his publications can be found at <https://sites.google.com/site/jeredborup/>



Chawanna Bethany Chambers

Dr. Chawanna B. Chambers is a national award-winning and board-certified PK-20 career educator with teaching experience spanning primary, secondary, and higher education. She has taught K-12 English online, coordinated Title I after-school tutoring programs, served as a reading intervention teacher, planned & facilitated advisory programs, developed curriculum, supported teachers as an instructional coach, published educational research, and served in several other leadership capacities. In addition to being named New Teacher of the Year in 2009 and receiving the Principal's Award on her campus in 2010, the National Council for Teachers of English awarded her with one of its 2010 Early Career Educator awards. Chawanna was a class of 2018 New Leaders Council San Antonio fellow and 2019 Leadership SAISD cohort member. Chawanna, known as Dr. Chae to many, thrives at the intersection of educational theory and practice. Understanding students' experiences in school is integral to delivering what will help create a lifetime of meaningful success and joy for each of them. Using research and relationships as the cornerstone of her work, she works to design learning environments that encourage belonging and mastery for K-12 students.



Nicole Sandrowicz

Nicole Sandrowicz is currently an SBTS, School Based Technology Specialist, in Fairfax County Public Schools. Originally from Northeast Pennsylvania, she moved down to NOVA to begin her teaching career in 2015. She began as a classroom teacher for 6 years, teaching between 2nd and 3rd grade. While in the classroom, Nicole gained skills in ESOL and SPED teaching practices. She then spent 1 year as a Special Education teacher. During these years, Nicole attended George Mason University Graduate program for Blended and Online Learning, which fueled her passion to assist teachers in their practice, along with reaching the needs of all students. Outside of work, you can find Nicole reading, spending time with friends, or walking with her dog Moby.



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Preface and About This Book

Charles R. Graham, Jered Borup, Michelle Jensen, Karen T. Arnesen, & Cecil R. Short

Thank you for accessing one of the books in the *K-12 Blended Teaching (Vol. 2): A Guide to Practice Within the Disciplines* series!

The purpose of this preface is to orient you to the focus of this book, the original contributions that this book makes to blended learning, and the resources available to you within this book.



The Purpose of This Book

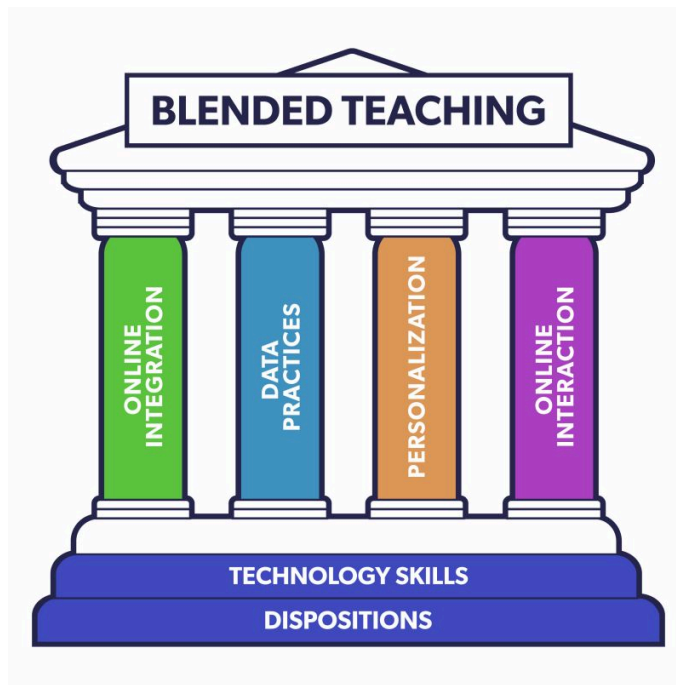
The purpose of this book is to provide rich examples of the four blended teaching competencies from a disciplinary perspective. The first three chapters of the book provide definitions and an overview of the blended teaching framework. Subsequent chapters are organized into sections that focus on blended teaching in a specific discipline. Each section has the following chapters:

- **Introductions**—Video introductions to the model teachers who will share written and video examples throughout the section.
- **Why Blend?**—Descriptions from the model teachers about why they chose to try blended learning in their classrooms.
- **Online Integration and Management**—Examples of how to effectively combine online instruction with in-person instruction.
- **Online Interaction**—Examples of how to facilitate online interactions with and between students.
- **Data Practices**—Examples of how to use digital tools to monitor student activity and performance in order to guide student growth.
- **Personalizing Instruction**—Examples of how to implement a learning environment that allows for student customization of goals, pace, and/or learning path.



What is This Book?

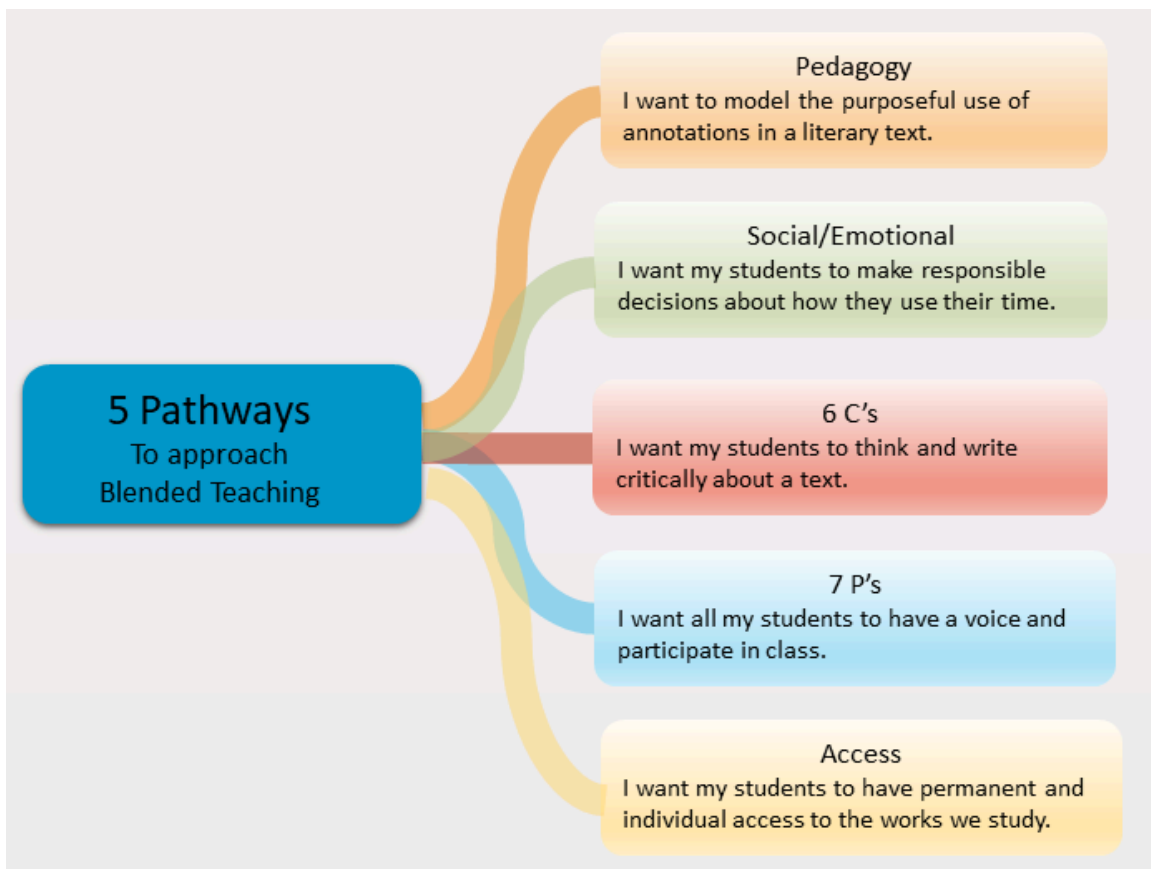
This book is a follow-up to [K-12 Blended Teaching: A Guide to Personalized Learning and Online Integration \(Volume 1\)](#). Volume 1 took a competency-based approach to planning and implementing blended learning. The competencies in Volume 1 were organized into the following areas: Online Integration, Data Practices, Personalization, and Online Interaction, with a final chapter that discussed how all of these areas come together to design blended learning. These competencies are built upon a solid foundation of blended learning dispositions and technology skills.



You can read more about these ideas by following these links to Volume 1:

- Cover - [K-12 Blended Teaching \(Vol. 1\): A Guide to Online Integration and Personalized Learning](#)
- Chapter 1 - [Blended Teaching Foundations](#)
- Chapter 2 - [Online Integration](#)
- Chapter 3 - [Data Practices](#)
- Chapter 4 - [Personalizing Instruction](#)
- Chapter 5 - [Online Interaction](#)
- Chapter 6 - [Blended Design in Practice](#)

Instead of using the competency-based approach from Volume 1, Volume 2 explores blended learning within various K-12 contexts through a problems of practice approach. These problems of practice are organized into the areas of Pedagogy, Social/Emotional Learning, the 6 C's of 21st-century learning, the 7 P's of transformational blended learning, and Access. Examples of these problems of practice are illustrated in this volume's [Chapter 1: Introduction to K-12 Blended Teaching](#). Below is an image from the English Language Arts chapter that demonstrates some possible problems of practice.

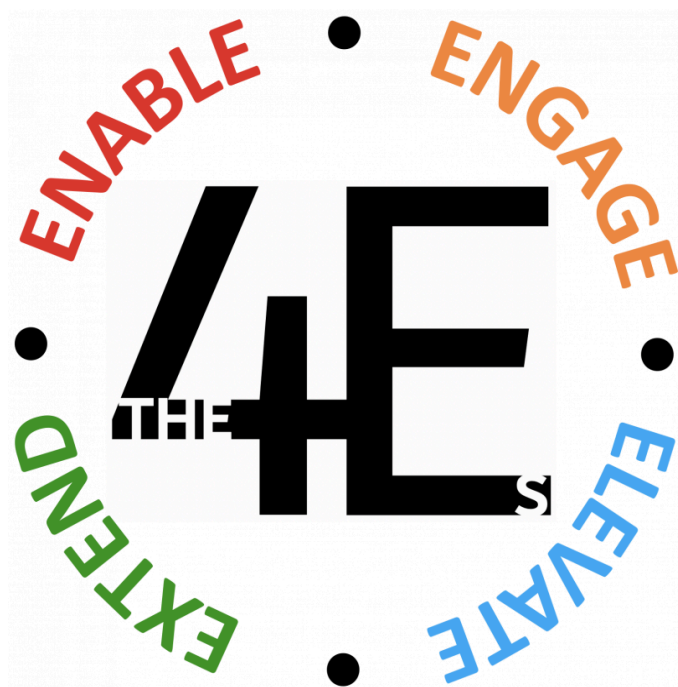


New Content in Volume 2

While Volume 2 understandably builds on the content of Volume 1 and offers new examples of blended teaching across K-12 contexts, it also offers some new insights that are generally applicable to blended teaching.

First, [Chapter 2: K-12 Blended Teaching Competencies](#) offers an overview of the competencies from Volume 1, but also provides new understandings of what some of these competencies look like in practice. Worth specific exploration are new understandings of what personalized learning looks like in K-12. Chapter 2 provides a framework for designing personalized learning that examines the relationships between the data used for personalization, who or what is controlling the personalization, what is being personalized, and the extent to which learners are practicing agency and ownership over their own learning. These new understandings of personalized learning come from working alongside the teachers who contributed their practices to this book.

Second, [Chapter 3: Evaluating Teaching with the 4Es and PICRAT](#) presents a new framework for evaluating blended teaching practices. Volume 1 used PICRAT to help explain some of the designing that goes into blended teaching. Volume 2 builds on Volume 1 by providing both PICRAT and a new 4E framework for evaluating blended teaching. This new framework focuses on evaluating the ways in which blended teaching Enables, Engages, Elevates, and/or Extends learning in meaningful ways.



New Resources in Volume 2

Much like Volume 1 offers resources such as blended teaching videos, artifacts, and reflection questions, the books in Volume 2 have their own resources worth referencing.

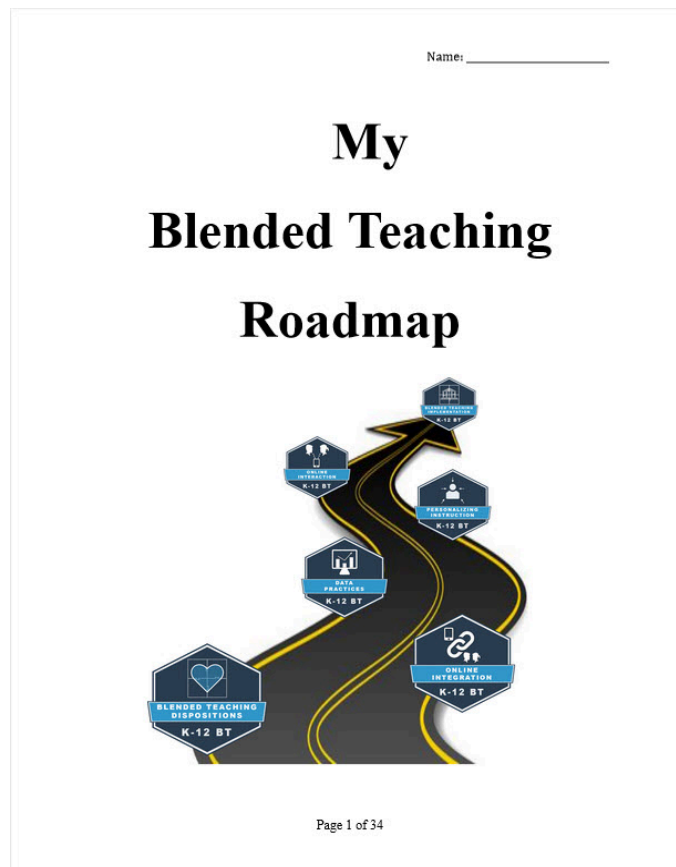
Each chapter of this book is filled with **teacher quotes and videos** about teachers' experiences with K-12 blended teaching. Chapter 4 of this book introduces the teachers who contributed practices to the book. Our hope in creating this book is that it can largely be seen as a book created through collaboration with teachers for teachers. The videos and quotes throughout this book should not be seen as optional content, but rather as the core content used to explore examples of blended teaching across content areas and grades.

The other key resources to be aware of in using this book for training, professional learning, or blended teaching implementation are the **Blended Teaching Readiness Survey**, the **Blended Teaching Roadmap**, and the **Blended Teaching Workbook**.



Each chapter of Volume I begins with a link to the **Blended Teaching Readiness Survey**, a brief readiness self-assessment survey. This survey can be helpful as you prepare for blended teaching regardless of whether you are taking a competency-based approach or a problems of practice approach. The survey takes 2-3 minutes per section of

the survey. These sections include questions about your dispositions and abilities to use online integration, data practice, personalized learning, and/or online interactions. It provides users with a sense of their current aptitude for blended teaching specific to each competency. You can learn more about the Blended Teaching Readiness instrument and use it yourself here: <http://bit.ly/K12-BTR>.



The [Blended Teaching Roadmap](#) is a resource introduced in Volume 1 for guiding teachers in designing, developing, and implementing blended teaching. Like Volume 1 itself, this resource takes a competency-based approach to help educators implement blended teaching. Appendix C of Volume 1 provides links to examples and Google Docs to reference and use in creating a plan for blended teaching. To use the Google Doc, you should make a copy of the Blended Teaching Roadmap that you can edit and own.



Blended Teaching Workbook

This is an example of what the callout boxes for the Blended Teaching Workbook look like. You will find these scattered throughout the book. You can access the Blended Teaching Workbook [here](#).

The [Blended Teaching Workbook](#) is a new resource introduced in Volume 2. Like Volume 2 itself, this resource takes a problems of practice approach to designing, developing, and implementing blended teaching. References to the Blended Teaching Workbook are scattered throughout this book with links to the Google Doc used to create the workbook. To use the Google Doc, you should make a copy of the Blended Teaching Workbook that you can edit and own.

We hope that you enjoy the book we have put together, and encourage you to share it with others! Thank you again for exploring our work!

Previous Citation(s)

Graham, C. R., Borup, J., Jensen, M. A., Arnesen, K. T., & Short, C. R. (in progress). *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines, 2*. EdTech Books. <https://edtechbooks.org/-QNCX>



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General Introduction to Blended Teaching

Introduction to K-12 Blended Teaching
K-12 Blended Teaching Competencies
Evaluating Blended Teaching with the 4Es and PICRAT



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Introduction to K-12 Blended Teaching

Charles R. Graham, Karen T. Arnesen, Jered Borup, & Michelle Jensen



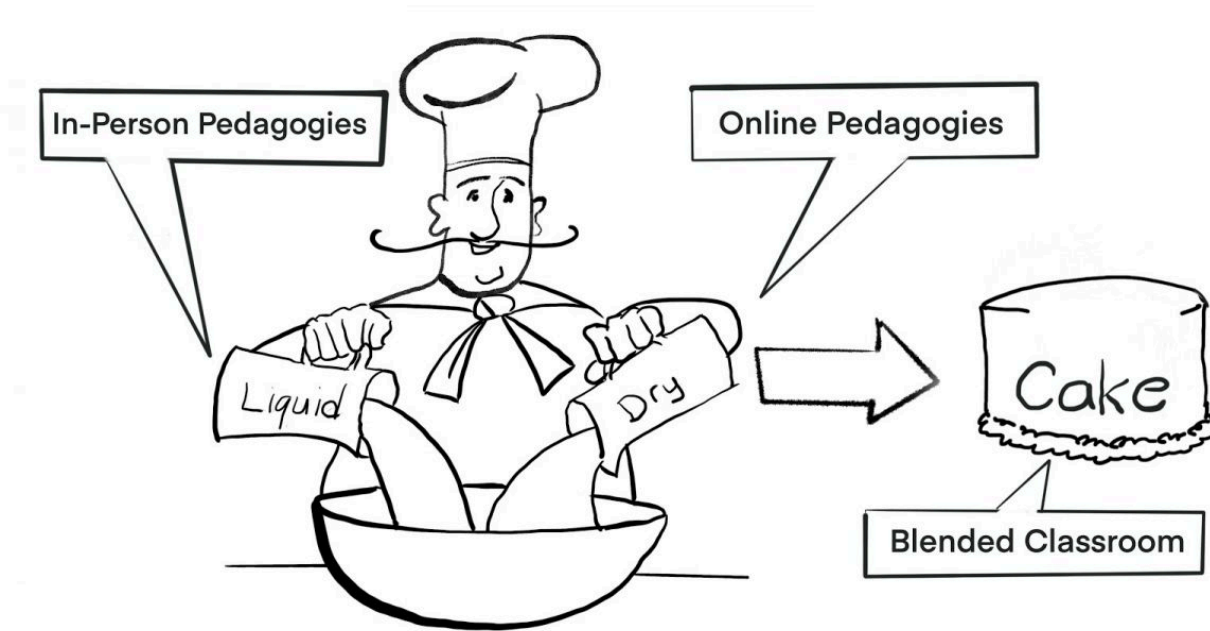
1.1 Blended Teaching

In its simplest form, blended teaching is the *strategic* combination of in-person teaching and online teaching.

Blended teaching is a general term that covers a wide range of different pedagogies, strategies, models, and practices. One teacher's blended classroom might look mostly like a traditional classroom with the addition of an occasional online discussion with students, while another classroom might be mostly online with a few strategically planned in-person activities.

Consider this simple (yet imperfect) analogy. Blended teaching is like baking a cake.

- The cook mixes the dry and liquid ingredients together to create a cake for friends/family to eat. The skill of the cook and the nature of the ingredients can create something uniquely wonderful.
- Likewise, a teacher 'mixes' pedagogies in online and in-person modalities together to create learning experiences/outcomes for students.



Consider possible lessons to take from the blended-cooking analogy:

- More dishes are possible with both dry and liquid ingredients.
- The specific ingredients matter. (You can't just have 2 cups of any dry ingredients and 1 cup of any liquid ingredients.)
- The amounts of specific ingredients also matter.
- When mixed well the outcome is different (often better) than if not mixed at all.
- When different ingredients are used, a different cake is made.
- Different cakes may have different purposes.
- There are thousands of ways to combine the dry and liquid ingredients.
- Good cooks do not follow a recipe. They make the cake to fit a specific purpose.

Like a good baker makes a cake, a skilled teacher can create a blend that promotes learning in a way that is most helpful for her own students.



1.2 Reasons for Blended Teaching

There are three primary reasons that teachers are motivated to try blended teaching: (1) Improved student learning, (2) Increased access and flexibility, and (3) Increased cost efficiency. Table 1 shares a few simple examples of each of these reasons for blending.

Table 1

Reasons for Blending

Reasons for Blending

Improved Student Learning	A teacher:
----------------------------------	------------

Reasons for Blending

	<ul style="list-style-type: none">• uses the blend to give students small group instruction or one-on-one time with students in order to address specific learning needs.• uses data obtained from online tracking systems to constantly monitor learning and to make adjustments to instruction.• uses self-made videos to give instructions that students can slow down, speed up, pause, or repeat in order to understand the material or an assignment.• offers choice in assignments to increase student engagement and ownership in their learning.
Increased Access and Flexibility	<p>A teacher:</p> <ul style="list-style-type: none">• uses the online space to incorporate into the classroom materials and information, targeted instruction, and activities that are not otherwise available.• A teacher uses technology to give students choices in learning activities.• A teacher consults with students to make learning goals.
Increased Efficiency	<p>A teacher:</p> <ul style="list-style-type: none">• moves some science labs online, creating less need for expensive equipment in the classroom.• uses books that are online to lower the cost of books (and to have more than a classroom set for students).• uses the online space to publish assignments, teacher and student examples, writings, explanations, and questions, reducing the need for copies.• Creates videos to expand teacher presence in the class, thus multiplying her effectiveness and productivity.

In this book we will primarily focus on providing examples of blended instruction that are designed to improve student learning and/or increase access and flexibility for the learner. It is worth noting that while one of these purposes may be the primary reason that you implement a blended approach, you may also see added benefits in other areas as well, such as in ease of lesson planning or improved overall class engagement.



1.3 Identifying Your Reason for Blending

Each teacher needs to decide their own reason for blending. This is important because, like the chef with the cake, determining your purpose provides a vision for how to select appropriate blended models and strategies to achieve the purpose. Blending just because an “administrator told you to” or because “you like technology” are not good reasons for blending.

In working with teachers, we have found that one of the best ways to get started is to identify and focus on a problem of practice. A problem of practice is a current problem or challenge that you believe blended teaching could help you solve.

As you consider problems of practice that are meaningful to your teaching context, these five pathways may help you identify them (Table 2).

Table 2

Problem of Practice Pathways

Problems of Practice Pathways

Signature Pedagogies	<p>Signature pedagogies are the teaching strategies that are commonly used in your discipline. They are often unique to your content discipline and shared within your professional organization.</p> <p>A problem of practice could be recognizing and trying to address limitations in your implementation of one or more signature pedagogies in your discipline.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Language Arts: I want to find more effective ways to engage my students in collaborative writing. • Math: I want to increase the quality of mathematical discourse in my classroom. • Science: I want to create opportunities for my students to use technology to analyze and interpret data and then create a scientific argument from this evidence.
Social Emotional Learning	<p>Students may struggle in areas of social emotional learning, such as self-management, self-awareness, responsible decision making, social awareness, and relationship skills.</p> <p>A problem of practice could be recognizing and addressing areas of growth in students' social and emotional learning.</p> <p>Examples:</p> <ul style="list-style-type: none"> • I want to create structures to help my students to make rational decisions. • I want my students to engage in activities that help them develop empathy for each other. • I want to introduce self-regulation challenges into my students' assignments.
6 C's of Deep Learning	<p>The 6 Cs of Deep Learning are character, citizenship, collaboration, communication, creativity, and critical thinking.</p> <p>A problem of practice could entail trying to increase one or more of these C's in your instruction.</p> <p>Examples:</p> <ul style="list-style-type: none"> • I want to increase my students' ability to communicate effectively about their learning. • I want to help my students develop better collaboration skills. • I want to students to think critically about current world events. • i want to allow my students to demonstrate their learning in creative ways. • I want to help my students practice appropriate digital citizenship. • I want my students to develop good character as they prepare to enter the real world.
7 P's of Quality Blended Teaching	<p>The 7 Ps of Quality Blended Teaching are participation, pacing, personalization, place, personal interaction, preparation, and practice with feedback</p> <p>A problem of practice could be recognizing and addressing a challenge in one of these areas.</p> <p>Examples:</p>

Problems of Practice Pathways

- I want to enable 100% participation in class discussions.
- I want my students to pace themselves to learn as quickly as they are able or as slowly as they need to.
- I want my students to personalize their learning by selecting learning activities that will help them the most.
- I want to open up learning experiences that take place outside of my classroom.
- I want to create additional opportunities for students to personally interact with me and with one another.
- I want to increase students' out-of-class preparation before classroom activities.
- I want my students to receive timely, effective feedback to their practice.

Student Access

Students may have challenges with access to traditional learning opportunities because of disabilities, illness, and/or participation in extracurricular activities like sports or the arts. They may also have limited access to materials that are necessary for improving their understanding of the subject. Such materials may include books, primary resources, lab equipment and resources, art supplies, concert or theatrical performances, etc.

A problem of practice could try to address challenges of access for students in your class.

Examples:

- **Student Absence from Class:** I want to make it easy for students who miss class for illness or extra curricular activities to stay caught up.
- **Transient Students:** I want to make it possible for students who move between schools regularly to quickly assess what they know and do what is needed to participate with the class.
- **Resources:** I want students to have access to the educational materials used as part of our learning in class.



1.4 Examples of Problems of Practice

Here are some examples of teachers who used blended teaching to solve a problem of practice. As you read through them, see if some resonate with desires you have for your classroom.

Scenario 1

Problem of Practice: A teacher wants students to take more ownership for their educational practices and attitudes.

Blended Approach: Students set weekly and daily goals which are recorded online, where the teacher has immediate access to them. Goals can include completion goals (setting a certain number of assignments and assessments to complete), performance goals (setting a specific standard of how well the assignments are done), or a mindset goal (setting a goal for asking for help or focusing better), for example. Students share their goals with their team and teacher online. At the end of the week, they reflect online about their experience. The teacher can respond online or in-person to areas of concern as needed.

Setting: LPS (Leadership Public Schools) Richmond in Richmond, CA

Site: [Daily and Weekly Goal Setting](#)

Scenario 2

Problem of Practice: A chemistry teacher wants his students to “learn for themselves and by themselves.”

Blended Approach: The teacher employs a flipped classroom. He creates videos of content the students need to know as well as tutorials on how to do certain chemistry operations. The students watch these videos at home. In class, the students apply what they learn at home in a variety of activities. The teacher walks around the class, answering questions, giving guidance, tutoring as needed, and “putting out fires.”

Setting: Woodland Park High, Colorado

Site: [Flipped Chemistry Course](#)

Scenario 3

Problem of Practice: A writing teacher wants her students to receive immediate feedback and to value the writing and feedback processes.

Blended Approach: The teacher has students write a specific type of paragraph online in a shareable document. While the students write, the teacher opens the students’ documents on her computer and gives feedback on them. Later the teacher and students discuss how to give good feedback. The students are then paired with another student to give each other online feedback. The teacher chooses five feedback comments and shares them in an in-person whole class discussion about the strengths and weaknesses of the feedback comments.

Site: [Learning to Give Feedback](#)

Scenario 4

Problem of Practice: A middle school teacher wants parents to be better informed and involved in their child’s education.

Blended Approach: Students use an app called Seesaw to record their work. Anything recorded on Seesaw is immediately available to parents who are connected to their child’s profile. Students can add video and audio components to explain their work.

Setting: Trailblazer Elementary School in Colorado Springs, CO

Site: [Seesaw Record](#)

Scenario 5

Problem of Practice: Students hurry through math assignments without really learning how to approach math problems and do them correctly.

Blended Approach: Students have individualized online learning agendas with standards, instructional videos, and text exercises. Students check off each objective within a standard as they complete them and pass an online mastery quiz. Teachers use the agendas to track student progress. When the students have finished each objective, the teacher reviews the progress and assigns them to create a mastery video, in which the students show how they work an easy, medium, and difficult problem within the standard. Teachers review the video to determine if the student is ready for the final mastery assessment.

Setting: ReNEW DTA, a charter school for pre-K through 8th grade in New Orleans, LA.

Site: [Thinking Mathematically](#)

Creatively addressing problems of practice with a blended approach can transform your classroom and help you create a strong, effective learning environment.



1.5 Pedagogy Centered, Technology Supported

The power of the blend is that it opens a whole new set of pedagogical possibilities for teachers. Although blends can improve outcomes for students, they can also make things worse for them. As with traditional teaching, the teacher's strategic planning and skill will make all the difference in the quality of the blend.

One way to begin thinking strategically about a blend is to consider the 3 M's—media, modality, and method.

Definitions: Media, Modality, Method

Media: The physical tools or technology used in the classroom. They can be digital media, such as tablets, computers, or cameras, or they can be non-digital, such as whiteboards, books, or science equipment.

Modality: The environment, where learning takes place. Modalities are generally the in-person classroom, the online classroom, and the blended classroom.

Method: The strategies and pedagogies of the teacher. They may be general methods (such as discussions) or discipline specific pedagogies such as experimental labs in chemistry.

See [Media, Modality, and Methods](#) video for a more full explanation.

Although all three M's impact learning, they are not equal in importance. No media or modality will be effective if it is not used as part of meaningful and strategic methods or pedagogies. Modality and media have an indirect effect on learning outcomes because they influence the *types* of strategies and methods that a teacher can use. But the teacher's methods directly influence student learning and outcomes. Table 3 shows good and bad examples of blended learning strategies and pedagogies. Evaluate each and see what made the difference: media, modality, or method.

Table 3

Good and Poor Examples of Blended Learning

Good Example of Blended Learning	Poor Example of Blended Learning
A math teacher uses adaptive software. She allows students to progress at their own pace and has one-on-one or small group sessions for students who struggle with a particular concept.	A math teacher has students who finish their math assignment early uses apps on a classroom set of tablets to play math games.
A history teacher sends students links to two different viewpoints of a historical event. Students read/watch the content at home. In class, the teacher puts students in groups of four and has them summarize each viewpoint and discuss why they are different. How does the creator's viewpoint affect the depiction of what happened? How can people really know what happened and why?	A history teacher records a lecture and has students view it before class at home. In class they do a worksheet with questions about the lecture.
A foreign language teacher utilizes station rotations in his classroom. At one station students choose from a list of writing assignments and write using google docs. Another student at that station reads the document online and gives suggestions or asks questions.	A foreign language teacher uses a video streaming service to show his students a weekly video in the target language. This enhances listening skills and allows

Good Example of Blended Learning

At the next rotation students meet online with a native speaker and have a short conversation, which uses new vocabulary.

Finally, at the last station students meet with the teacher to discuss and practice new grammar rules and language structure.

Poor Example of Blended Learning

students to hear the language spoken by native speakers.

These examples illustrate that blended teaching is powerful only when the modality and the media are used to support, not replace, pedagogy or method. As in any teaching setting, good blended teaching does not depend on technology but on the teachers' understanding of her students, her knowledge of the content, and her ability to plan strategies that will use technology to meaningfully combine online and in-person spaces, increase the number and quality of student interactions, use data to effectively meet students' needs, and personalize instruction in order to increase student ownership of their education, their engagement, and their ability to develop and use 21st century skills.

The chapters in this book will help you get started.

Previous Citation(s)

Graham, C. R., Arnesen, K. T., Borup, J., & Jensen, M. A. (in progress). Introduction to K-12 Blended Teaching. In C. R. Graham, J. Borup, M. A. Jensen, K. T. Arnesen, & C. R. Short (Eds.), *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines*, 2. EdTech Books. <https://edtechbooks.org/-Cipt>



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K-12 Blended Teaching Competencies

Charles R. Graham, Jered Borup, Michelle Jensen, Karen T. Arnesen, & Cecil R. Short

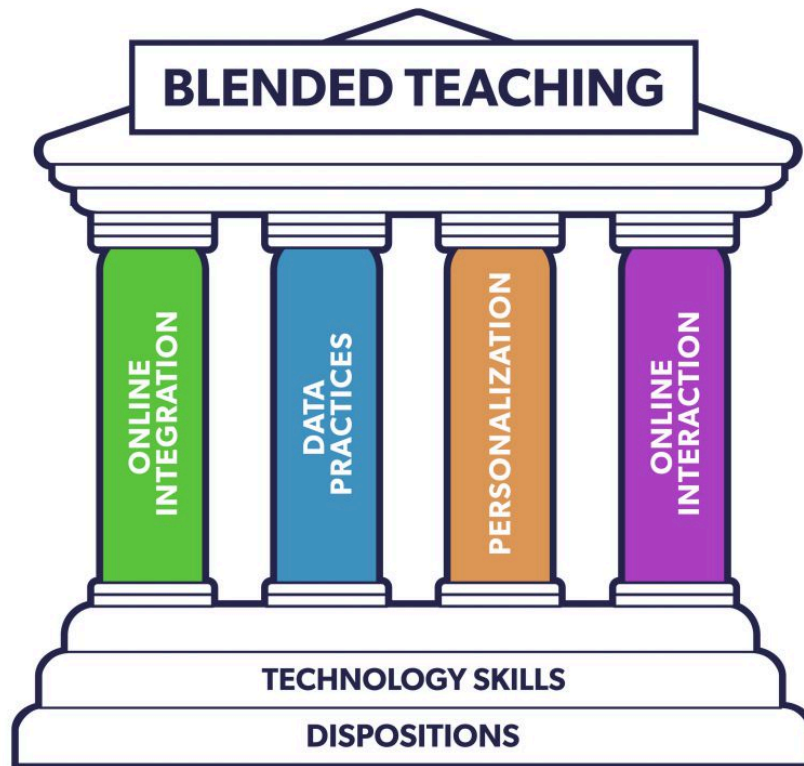


2.1 Blended Teaching Competencies

In [Volume 1 of K-12 Blended Teaching](#) we introduced four competencies shown in Figure 1, with each competency represented by a pillar built on a solid foundation of blended dispositions and technology skills. The four core blended teaching competencies—(1) Online integration, (2) Data practices, (3) Personalization, and (4) Online interaction—can be mastered by any teacher in any subject area. These competencies are built on a foundation of positive dispositions and basic technology skills.

Figure 1

Blended Teaching Foundations and Core Competencies



We will provide a brief introduction to these competencies in this chapter with more in-depth coverage in each of the subject-specific sections. Check out your readiness for blended teaching in each of these areas by taking this [Blended Teaching Readiness Self-evaluation](#).

Test Your Blended Teaching Readiness: <http://bit.ly/K12-BTR>

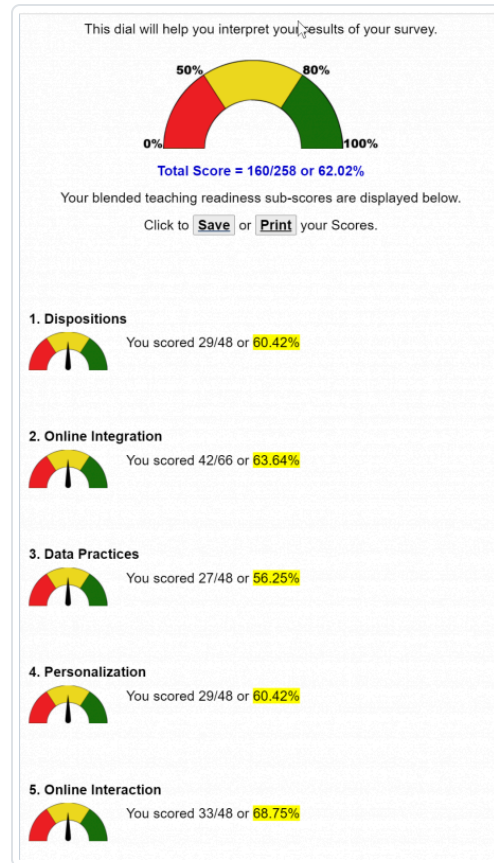


Check out how ready you are for blended teaching?

As shown in Figure 2, the results of the blended teaching readiness instrument will give you a score in each of the competency areas. The scores will help you to understand which competency areas you might want to start with as you build your personal skillset with blended teaching.

Figure 2

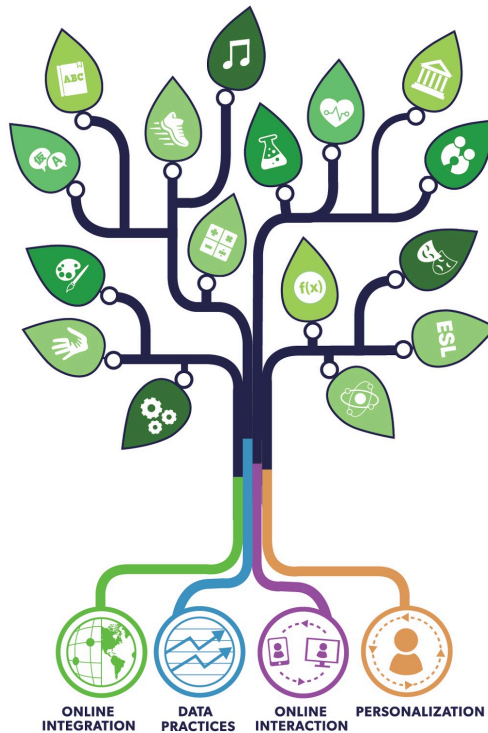
Example results from the Blended Teaching Readiness Survey



This volume differs from Volume 1 of the K-12 Blended Teaching series in that it focuses on examples of blended teaching in a specific content area. The four competencies of online integration, data practices, personalization, and online interaction are still key skills for successful blended teaching. However, those skills may look distinct when practiced in different content areas. We have represented this idea on the cover of this book with the blended teaching tree as shown in Figure 3. The individual branches represent blended teaching in the many distinct educational disciplines all of which are nourished by the common core set of teacher competencies.

Figure 3

Core Competencies in the Content Areas



In the following sections we will briefly outline these four core blended teaching competencies, and in each of the following chapters we will provide specific examples of these competencies. Many of the sections below include questions for you to think about. Think carefully and honestly about your answers, perhaps writing them down. Then notice where you are already strong and where you have room for improvement. These thoughts can guide your process as you begin blending.



2.2 Positive Dispositions and Technology Skills

You will need to develop basic technology skills and positive dispositions in order to be successful in blended teaching.

Dispositions focus on the teacher's attitudes and beliefs towards blended learning and teaching. Positive attitudes, even excitement, in each of these areas will determine how willing you are to experiment with and grow in a blended learning context.

Learn more about dispositions and skills in K-12 Blended Teaching (Volume 1): [What Competencies are Needed?](#)

2.2.1 Student Ownership and Agency

Successful blended learning classrooms shift from teacher led pedagogy to student driven pedagogies. Students begin to take more control of and responsibility for their learning, often making decisions for what, how, and when they learn. Teachers become a facilitator in such decisions and in helping students succeed in their new roles.

- How do I feel about students making some of the decisions about their learning?
- Do I feel I could learn to help students become more independent of me and more able to create their own learning agendas?

2.2.2 Mastery Learning Orientation

Blended classrooms lend themselves to mastery-based learning instead of time-based learning. Students advance in their learning as they master skills and content, not as they spend a certain amount of time on them. This approach significantly reduces the amount of whole-class direct instruction. Technology is a helpful tool for managing mastery learning.

- How do I feel about students learning at different paces in my classroom?
- Do I value students having enough time to master a learning objective before they move to the next one?
- Do I think I could develop the flexibility to manage such a classroom?

2.2.3 Value of Data-Driven Decisions

A reliance on data (Figure 4) to make decisions about instruction and individual pathways to learning is at the heart of a blended classroom. This data may include formative and summative assessment results, attendance, student goals, demographics, and measures of engagement. It can help teachers recognize strengths and weaknesses, progression, and reasons for students' lack of progress.

- How do you feel about using technology to keep track of various aspects of student learning?
- Do you feel data could help you not only understand your students better but also help them progress and become better learners?

Figure 4

Example of a Mastery Tracker Showing Student Progress

Students		1	1	1	1
SORT: Last, First A - Z		Obj1.1	Obj1.2	Obj1.3	Obj1.4
Student 1	3 0 1	MASTERY	MASTERY	MASTERY	REMEDATION
Student 2	2 2 0	MASTERY	NEAR MASTERY	MASTERY	NEAR MASTERY
Student 3	3 0 1	MASTERY	MASTERY	REMEDATION	MASTERY
Student 4	2 1 1	REMEDATION	NEAR MASTERY	MASTERY	MASTERY
Student 5	2 2 0	MASTERY	NEAR MASTERY	NEAR MASTERY	MASTERY
Student 6	4 0 0	MASTERY	MASTERY	MASTERY	MASTERY

2.2.4. Growth Orientation

Becoming a successful blended teacher will require you to take risks. You may fail at times, but these failures can help you learn and improve.

- How eager are you to learn new things and try innovative ways to do things?
- Are you willing to take risks that may temporarily leave you feeling inadequate? (Are you willing for your cake to fail now and then?)
- Do you enjoy learning and trying new things?

2.2.5 Emphasis on Life Skills

In a blended learning environment, technology can be used to develop real life skills such as communication, collaboration, creativity, and critical thinking.

- Do you currently use pedagogies that help your students develop life skills? If not, how can you start?
- Do you believe these life skills are part of your responsibility as a teacher?
- Are you willing to consider using technology to develop these skills?

2.2.6 Value of Online Learning

Because blended learning is “the strategic combination of in-person with online teaching,” valuing online learning is as important as valuing in-person learning.

- Do you believe online activities can enhance the way children learn?
- Do you feel online activities can give students opportunities to learn they can not get in the traditional classroom?
- Can you see ways online learning can help you personalize or individualize curriculum?

It is natural to feel a little uneasy about some of these dispositions. Maybe you are suspicious of online learning, or perhaps giving students more control makes you feel uneasy or out of control. Perhaps you worry that if you emphasize life skills, you won't be able to teach the content you are mandated to teach. Any new venture may feel risky; however, the fact that you are reading this book shows that you are ready to learn! And learning can change dispositions.

You can begin to see yourself as a teacher in new ways and to grow and learn along with your students, adding an excitement to learning that will enhance any methods you learn and choose to use. The key is just to begin. Beginning is the basis for personal growth—you have to start somewhere!



2.3 Basic Technology Skills

If you feel uncomfortable with all the technology tools out there, you are not alone. However, it is important to note that technology is not ultimately the focus of blended learning. *It is about helping students learn.* Once you start applying blended teaching, you will find that technology will become as invaluable and comfortable a tool to use in improving the learning experience of your students as a whiteboard, a book, or a worksheet is.

Here are some of the important knowledge and skills you can develop as a blended teacher.

2.3.1 Basic Literacy

You will need to become familiar with and use technologies on your own, troubleshoot issues that may arise, and find quality online content for use in your classroom.

- What technologies do you currently feel comfortable with? How did you learn to use them?
- Make a list of technologies you know of but that you don't use. Which one would you like to learn? How can you do so?

2.3.2 Digital Citizenship

Digital citizenship consists of modeling and teaching copyright laws and fair use, ensuring privacy and protection (passwords, no bullying, etc.), ensuring honesty, and ensuring access.

- What concerns do you have in any of these areas?

2.3.3 Learning management systems

Many blended teachers use learning management systems (LMS) to organize their classrooms. They keep grades, give announcements, and create content pages, quizzes, assignments, and discussion boards in the LMS.

- Does your school already use an LMS? Which one? How familiar are you with it? How can you learn more? Is there another teacher or a coach in your school who could help you?

2.3.4 Educational Software

Blended teachers have resources for finding content-specific educational software that helps them meet their learning objectives.

- What content specific educational software are you aware of? Does your school already subscribe to any?
- Are there any free sources you can use?

2.3.5 Media Creation Tools

These tools help teachers create or edit online materials to meet specific needs. They are also tools that students can use to create.

- What media creation tools are you familiar with?
- How could you use them to create materials for your classroom?
- How could you let your students use them to learn or to demonstrate learning?

2.3.6 Communication Tools

Blended teachers use a variety of tools for communicating with their students, parents, administrators, and other stakeholders. They also leverage these tools to help students communicate and collaborate with each other.

- How can greater communication with students, parents, administrators, and others help enhance your teaching ability and your students' learning experiences?
- What tools do you already use to interact with others? Could some be adapted to use with students and others?
- What new tools (such as [Flipgrid](#)) could you incorporate into your classroom?



2.4 Online Integration

Online Integration focuses on the teacher's ability to make and implement decisions related to selecting when and how to effectively combine online and in-person learning as part of core instruction.

Online integration is the one competency that is truly integral to blended teaching. Why is this so? If you don't have some kind of strategic combination of online and in-person instruction, you don't have blended teaching. However, don't let this overwhelm you. All of the other competencies we will discuss provide specific tools to use in integrating the online and in-person space.

- What part of your instruction could be moved online so that you have more time to spend one-on-one or in small groups with students?
- How could you make this content available to students in the online space?
- What parts of student learning are especially well suited to in-person learning?
- How can using the online space help make learning more interactive and personalized?

Read more about [online integration practices](#) in the in K-12 Blended Teaching (Volume 1).



2.5 Online Interaction

Online Interaction focuses on the teacher's ability to facilitate online interactions with and between students. Online interaction in a blended teaching classroom broadens the opportunity for students and teachers to communicate with one another about their learning. Online interaction might include digital instruction, discussions, and feedback.

In 1989, Michael Moore defined three different types of learning interactions: (1) Student–content, (2) Student–instructor, (3) Student–student. Moore explained that each type of interaction contributes to a quality learning experience. Though Moore defined these types of learning interactions in a discussion about distance learning, they also apply to online interactions that occur in blended teaching.

Online student–content interaction occurs when students engage with online learning materials by reading, listening, watching, and/or reflecting. Online student–instructor interaction occurs when students have opportunities to apply what they have learned from their content interactions, demonstrate new knowledge, and receive feedback in an online forum from the teacher as the “expert.” Finally, online student–student interaction occurs when students communicate online with one another—sharing their understanding and building on what they have learned.

One of the key elements to being able to leverage the advantages of blended learning is the ability to create a positive, supportive, and safe space—not only in the physical classroom, but in the online space as well. Just as students must develop an understanding of the rules, routines, and procedures for communicating and participating in-person, they must also learn the guidelines for online interaction.

Read more about [online interaction](#) in K-12 Blended Teaching (Volume 1).

2.5.1 Online discussions

One of the major interactions that can happen in an online setting is the use of discussions. The advantage of online discussions is that they are one of the few online activities that can combine all three types of interactions. Students usually read or view materials to prepare for the discussion (student–content interaction), then share their thoughts with their peers (student–student interaction) in a forum that is moderated by the instructor (student–instructor interaction). As a result, online discussions can be critical in helping students achieve course outcomes because they provide students with a variety of interactions.

Discussion Variations

Online discussions can happen synchronously (in real time) or asynchronously (not in real time). The advantages of an asynchronous discussion is that it allows additional flexibility in time, place, and depth of reflection. Online discussions can also range from low fidelity (mostly text based with no communication cues) to higher fidelity (video communication with more communication cues). Higher fidelity discussions that utilize video or audio discussion platforms contain many of the communication cues that we are used to having in person.

Learning Objectives

It takes careful thought and preparation to create an effective online discussion. Once you have established guidelines, you must figure out how an online discussion can support and improve student learning. It is helpful to keep in mind what you want students to know and take away from the online discussion. You might want to communicate this rationale with students, highlighting what you hope they will gain from their participation.

Once you have determined your objective(s), consider how you are going to make sure that students meet them. You may want to think about the source material students will need to read or watch prior to participating, how the online discussion will inform in-person discussions, and whether the discussion will be started, continued, or finished in the online setting.

Effective Prompts

All good online discussions begin with well-planned discussion prompts. You may wish to consider a range of question types depending on the specific objectives and what you want students to take away from the discussion. These questions can take a variety of forms, similar to any in-class discussion. As Davis (2009) described, you might consider asking the following types of questions:

- Exploratory questions: probe facts and basic knowledge
- Challenge questions: interrogate assumptions, conclusions, or interpretations
- Relational questions: ask for comparisons of themes, ideas, or issues
- Diagnostic questions: probe motives or causes
- Action questions: call for a conclusion or action
- Cause-and-effect questions: ask for causal relationships between ideas, actions, or events
- Extension questions: expand the discussion
- Hypothetical questions: pose a change in the facts or issues
- Priority questions: seek to identify the most important issue(s)
- Summary questions: elicit synthesis

These question types can be mapped to Bloom's Taxonomy, ranging from those that focus on factual information such as exploratory questions, to others that require more in-depth synthesis and evaluation.

Online discussions are more productive when teachers give participants explicit instructions. You will want to model the nature of the posts you are expecting. Directions may also include a number of factors such as post length, style of writing, specific formatting conventions students are expected to follow, required references, expectations for number of replies, who will respond to whom, and when initial posts and response posts are due. You can group these aspects into categories of structure, content, flow, and timing. Each aspect of these categories is described in Table 1.

Table 1

Characteristics of Online Posts

Category	Factor	Description
Structure	Length	How long should posts be? Can you include a range of the number of words expected? Should the post be a certain number of sentences or paragraphs?
	Style	How formal do you expect the language to be? While it might be more conversational, the tone should still be academic in nature. Helping students strike this balance is important to model in online discussions.
	Formatting	Are there any guidelines you want students to follow when posting , such as a specific title for the subject line? Should students use a greeting and a closing in their responses? Is there specific content you want in each paragraph?
Content	Requirements	Are there sources/references the students need to connect to or cite in their responses? What ideas must students present in their posts?
Flow	Replies	How many posts/responses are required to adequately participate in the discussion? How will students know who to respond to?
Timing	Due Dates	When are initial posts due? Do students have enough time to understand the material or discussion before posting?

Managing Discussions

One of the mistakes that teachers who are new to blended learning often make is using their LMS to create whole class discussion activities. It can be okay to have a class discussion board for sharing general ideas about class or asking general questions, but these are not ideal for creating student-student interactions. If the discussion group consists of more than 10 members, it becomes very difficult for each member of the group to read all the posts and know what has been said and what has not been said. Additionally, large discussion groups make it more difficult to create a sense of community, whereas members of a small group have a better chance of getting to know one another.

For managing discussions, breaking your class into smaller groups can be helpful. You might consider creating groups with between 4 and 6 members (certainly fewer than 10). If you want all students to get a sense of the discussion happening throughout the entire class, groups can have their discussion and then report to the entire class with a synthesis activity. Another strategy is to assign specific roles within the small discussion group to focus students' contributions. Over a series of weeks, these roles can rotate so that each student has an opportunity to fulfill each role. Several possible discussion roles might be facilitator, devil's advocate, connector, explorer, and summarizer (North, 2017).

When facilitating online discussions, it is also important to strike the right balance in terms of teacher interaction. Too little teacher interaction and students can feel like no one is listening. Too much and you run the risk of dominating the discussion which can limit or hamper students' interactions, both in terms of quality and quantity.

You will also want to establish guidelines for giving students credit for discussion board participation, and provide ways to allocate points for posting regularly, responding to classmates' posts, staying on topic, and responding in a thoughtful manner. Assessing the quality as well as the quantity of the students' online posts is important. Using rubrics will allow students to have clear guidelines of your expectations for the quality of their posts.

2.5.2 Feedback

Effective feedback highlights strengths and areas for improvement for student work, is given promptly and respectfully, and motivates students to improve. Feedback should build relationships, offer praise, suggest corrections, and offer support. In a blended classroom online tools can be used to facilitate these goals. Online rubrics within most learning management systems help teachers to quickly assess and communicate expectations to students. Feedback templates may be used to provide feedback about common weaknesses by completing a digital form for each student. Video and audio comments can allow for more complex feedback.

Peer Feedback

Quality peer feedback can allow teachers to spend their time more effectively. For instance, you can implement a three-before-me policy that requires students to receive feedback from three peers before submitting the project to you for feedback. John Hattie's (2008) review of research found that 80% of feedback that students receive comes from their peers. Unfortunately, 80% of that feedback is incorrect! As a result, you should help students learn how to provide quality feedback to their peers. For instance, you can create specific rubrics and then help students understand how to use those rubrics while providing feedback (2008).

Teacher Feedback

Student to teacher feedback can improve learning for all students. Again, John Hattie's seminal synthesis of over 800 meta-analyses relating to student achievement highlights the need for student-provided feedback. Hattie explained, "the most important feature was the creation of situations in classrooms for the teacher to receive more feedback about their teaching" because it created a "ripple effect back to the student" (2008, p. 12). Online communication can help students provide you with meaningful feedback because their comments can be anonymous. It can also give students the opportunity to provide you with feedback at any time. For instance, you could create an anonymous feedback survey using Google Forms linked in the sidebar of a course website that students can access while they are working on assignments.

Supporting Learning with Online Interaction

Sometimes teachers don't see a need to communicate online if students have the opportunity to do so in-person. However, there are advantages and disadvantages to both in-person and online communication. The challenge is leveraging the advantages of both in-person and online interaction. Some of the strengths of online communication include:

- **Flexibility:** Students can contribute to the discussion at the time and place that is most convenient and comfortable to them.
- **Participation:** All students can participate because time and place constraints are removed. The discussion is not limited to the time that class is meeting or to the students that are present or feel most comfortable speaking in front of others.
- **Depth of reflection:** Students have time to carefully consider their claims, provide supporting evidence, and engage in deeper, more thoughtful reflections (Mikulecky, 1998; Benbunan-Fich & Hiltz, 1999).

Notice how the strengths of online communication are some of the weaknesses of in-person communication.

2.5.3 Conclusion

Online interaction facilitates student learning by taking advantage of the strengths of both in-person and online communication. You can begin or improve your blended teaching by considering the advice and guidelines recommended in this chapter.



2.6 Data Practices

Data Practices focus on the teacher's ability to use digital tools to monitor student activity and performance in order to make informed choices about interventions and to help all students progress.

Read more about [data practices](#) in K-12 Blended Teaching (Volume 1).

2.6.1 Performance Data

Performance data shows direct measures of how students perform on assessments. It may include measures such as grade books and state and national exams. Performance data can also be found in mastery or performance dashboards in an LMS.

2.6.2 Activity Data

Activity data are indirect measure of student participation and engagement. It includes attendance, participation, LMS log-in times, and engagement. Some of this data can be found in LMS dashboards; other data could come from one-on-one interviews or observations.

2.6.3 Learner Profile Data

Learner profile data are measures of a learner's background, interests, goals, and preferences. These data are just as important to data-driven instruction as performance data and activity data if teachers want to provide data-driven instruction and help students to personalize their learning.

Read more about [learner profile data](#) in section 4.1.3 in the Personalization chapter of K-12 Blended Teaching (Volume I).



2.7 Personalization

Personalizing instruction focuses on the teacher's ability to implement a learning environment that allows for student customization of their learning goals, pacing, time, place, and/or path. It is the process by which teachers shift their focus from a classroom in its entirety to individual students. Through personalization, students begin to understand how they learn and how they become life-long learners. Helping students learn how to learn is a goal that almost all teachers have for their students; the question therefore becomes, "How do I empower to students to personalize their learning in my classroom?"

Personalization means allowing a student's needs and desires to motivate what, when, where, and how the student meets the learning outcomes for a course (Patrick et al., 2013). This involves the teacher giving the students more freedom while still guiding and facilitating the learning process in the classroom. It is helpful to think about how learning can be personalized across various instructional elements, dimensions of personalization, and levels of student agency.

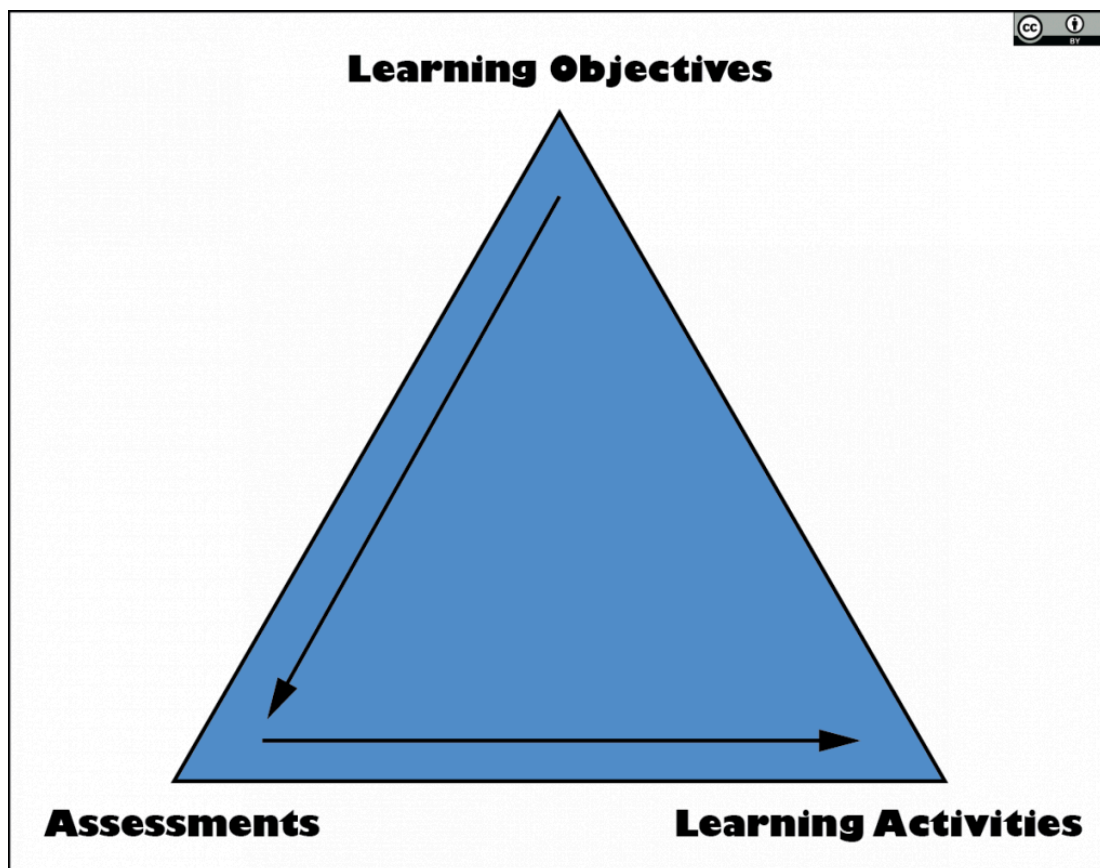
Read more about [personalization](#) in K-12 Blended Teaching (Volume 1).

2.7.1 Personalization Across Instructional Elements

Learning can be personalized along any of the three elements that commonly make up instruction: learning objectives, assessments, and learning activities (Figure 5). Describing the personalized learning of these elements helps explain what is being personalized.

Figure 5

Instructional Elements According to Backward Design



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While some assessments may have mandated times, places, and formats, other assessments may offer students some flexibility in demonstrating their knowledge or ability. For instance, some assessments can be personalized by allowing students to choose how they show their understanding; the level of mastery they hope to attain on the assessment; how quickly an assessment must be completed; or even when and where the assessment should be completed—such as at home or in an alternate school environment during class, before school, or after school.

Similar to assessments, learning activities can also be personalized by allowing students to choose from various kinds of activities, formats, or media to use in preparing for assessments; how quickly learning should occur; when and where

study or completion of learning activities should occur; with whom the student would like to work; or even the learning habits students aim to develop while completing the learning activities.

We further discuss how these instructional elements can be personalized by describing the various dimensions of personalized learning below (Figure 6).

Figure 6

Dimensions of Personalized Learning



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2.7.2 Goals

Teachers often feel pressure to make sure their students meet certain outcomes by the end of their time together. These learning outcomes and requirements are usually designated on the district, state, or even national level. However, students can benefit from being encouraged to set, track, and achieve their own short-term goals throughout their learning. As teachers help their students to make Specific, Measurable, Attainable, Relevant, and Time-Based (SMART) Goals (see Figure 5), they show that students are responsible for their own learning and give students the tools to reach their potential (Graham et al., 2019).

Figure 7

SMART Goals



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It is important that both teacher and student work together to set appropriate goals to help the student reach the outcomes for the course and for personal growth. These goals, which can be academic (performance-based) or behavioral (habit-based), will allow the student to feel accomplished as they reach their own milestones throughout the course. The personalization of goals and the individual process of setting them will help motivate struggling students, showing them that they are growing in meaningful ways, and challenge advanced students, allowing them to set goals at their own level. Students and their teachers can also decide on personalized means of assessing if the students are reaching their goals and the learning outcomes for the course.

Not a Personalized Goal

The teacher decides that students will work towards 80% mastery of an assessment for a specific state standard.

Personalized Goal

Students aim for different levels of mastery, based on their previous performance data.

2.7.3 Time

Photo by [Ales Krivec](#) on [Unsplash](#)



Like most people, students often have a preferred time of the day in which they are mentally more astute and a preferred amount of time they can efficiently spend on a single task. As teachers get to know their students, they may begin to understand what these times are for each student. Personalizing time in a classroom allows students to focus on their more difficult content areas while they are more alert. In a full-day class, this may mean allowing some students to write in the morning, while others may choose to do so after lunch. In a period-based schedule, this may mean working with students to adapt the times and dates assignments are due, motivating students to work on their assignments at a time that cognitively works best for them. Additionally, some students may wish to work at home or

on a project before or after school. Personalizing time means allowing students to have access to the materials they need when they need them. It should also be noted that allowing students to work at a time that is best for them may also mean allowing them to work at a pace that is best for them.

Not a Personalized Time	Personalized Time
The teacher chooses when the whole class will participate in an instructional activity.	Students choose how to spend their time during a class's "flex" time.

2.7.4 Place

The personalization of place consists of both the location in which the students are learning and the people with whom they are learning (Graham et al., 2019). Personalizing place in a classroom allows students to learn the types of environments and interactions that are most conducive to their individual productivity while in a structured, low-stakes setting. This knowledge will benefit them as they graduate and move on to more high-pressured environments, such as college and careers. Teachers can open the space in their classroom to allow students to work in different groups or stations, or they may allow more freedom in what happens in the classroom or at home. The teacher can be in only one place at a time, so technology often plays a role in allowing students to have flexibility in the location of their learning by providing them with access to learning materials.

It is important to note that personalization is not always a separating process. There are many ways to group students in a classroom: in pairs or in small groups, with similarly skilled students working together, or with students on a spectrum of skills helping and tutoring each other (Graham et al., 2019). Teachers must decide how much freedom they give their students in determining both the other students in their groups and their roles within their respective groups.

Not a Personalized Place	Personalized Place
The teacher creates a seating chart and each student is expected to sit in his or her assigned seat.	Students are given a choice of where to sit based on several flexible seating options.

2.7.5 Pace

Personalizing pace allows students to adjust the speed at which they complete learning activities and content. While teachers may need to set a minimum pace at which student are allowed to work, adjusting the flow of material for each student helps to ensure that those who need more time to absorb the material are not left behind, while those who may grasp a particular concept more quickly are able to advance to activities that allow them to further develop their knowledge.

Not a Personalized Pace	Personalized Pace
The teacher determines when the class begins and ends working on a lesson or unit.	Students are able to work through units at the speed that works best for them, working ahead or slowing down as needed.

2.7.6 Path

A personalized learning path consists of students choosing how they will achieve a specific learning outcome or personalized goal. While the personalized goal or learning outcome is the end result, with personalized paths the students are able to decide the learning activities they complete as they strive to reach that goal. These options can take a variety of forms: students choosing assignments from a list of different learning activities that all teach the same principle, students deciding whether they would rather listen to instructions through a recording or read them on a page, or students each choosing how they will show mastery at the end of a unit. While these methods help the students to

feel ownership and connection to their learning, it also can prevent the tedium of grading worksheets or multiple-choice exams for every unit.

Not a Personalized Path

The teacher determines the sequence of activities that everyone in the class will complete.

Personalized Path

Students choose from among a list of activities that will help move them towards mastery.

2.7.7 How to Begin Personalizing, Levels of Learner Agency

Photo by [Paul Melki](#) on [Unsplash](#)



While the task of personalizing a classroom seems daunting, it is important to realize that teachers do not need to start implementing all five dimensions of personalization across learning objectives, assessments, and learning activities all at once. There are some domains that may already fit within a classroom's structure and others that may follow later. For example, a teacher may begin by helping students set their own goals, which might eventually develop into the personalization of path. The most important criteria are that a teacher starts with a student-centered mentality, builds a support system, and has a personalization plan in mind.

Becoming student-centered

The task of personalizing a classroom requires more than just a structural change in a classroom. It also requires the humility and patience to allow students more autonomy in their learning. The teacher must step away from a lecturing role and into the role of a facilitator and a guide, which often means getting to know the students in a more personal way. While it may be unfeasible to sit down with every student on a regular basis, even simple connections like sending surveys about students' preferences and needs can go a long way. These surveys can contain both multiple-choice sorting questions (Do you prefer reading instructions, watching video instructions, or both?) and open-ended, interest-

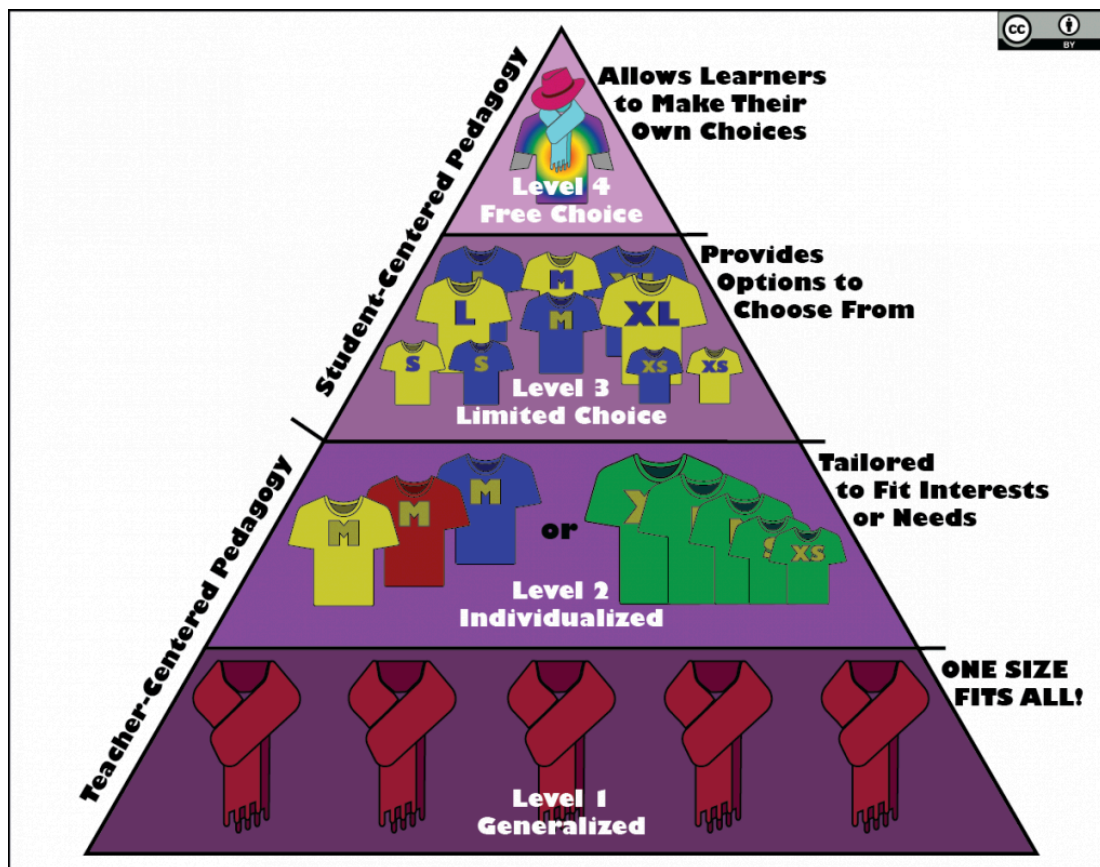
based questions (What do you like to do in your free time?) (Graham et al., 2019). The answers to questions like these can be used to develop a more student-centered classroom.

Short (2022) notes that teaching can incorporate four different levels of learner agency for personalization (See Figure 6). These levels are outlined as follows:

- Level 1 - Generalized Instruction. At this level, the instruction is largely teacher-centered and takes a “one-size-fits-all” approach to learning.
- Level 2 - Individualized Instruction. Instruction includes some differentiation, individualization, or adaptation. These modifications come from the teacher making decisions based on students' needs, interests, and abilities, or from technology that measures student knowledge or abilities and adapts instruction based on such data.
- Level 3 - Limited Choice. Students have some choice over their learning related to the goals, time, place, pace, and/or path of their learning. At this level, teachers provide students with options to choose from such as various levels of mastery to work toward, various forms of assessment to complete, or various videos to watch.
- Level 4 - Free Choice. Students fully direct the goals, time, place, pace, and/or path of their learning. At this level, students have full autonomy in directing their learning. It may be uncommon in K-12 contexts for students to reach this level all the time but there are opportunities for students to practice this level of agency. For example, students may freely choose the topic of an essay or whom to work with for completing a project.

Figure 8

Short's Taxonomy of Learner Agency



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These four levels of agency can be applied to any of the five dimensions of personalized learning (goals, time, place, pace, and path) and to any of the three elements of instruction (learning objectives, assessments, and learning

activities).

Developing a support system

Personalized learning is not the same as giving students free reign in the classroom. In order to truly help students, teachers need to find a balance between the overall structure of the classroom and the flexibility of student choice within that structure. As the teacher begins a school year with a plan of what decisions the students will be able to make and which ones the teacher will resolve, the teacher will be more prepared to help students reach their full potential. However, in order to truly be student-minded, teachers must remember to maintain a flexible mindset as they create personalization plans. Once teachers begin to understand the unique individuals in their classrooms, they will be able to fine-tune their plans for personalization in a way that supports those students.

Personalization plan

Personalizing learning is not the same as giving students free reign in the classroom. In order to truly help students, teachers need to find balance between the overall structure of the classroom and the flexibility of student choice within that structure. As the teacher begins a school year with a plan of what decisions the students will be able to make and which ones the teacher will resolve, the teacher will be more prepared to help students reach their full potential. However, in order to truly be student-minded, teachers must remember to maintain a flexible mindset as they create personalization plans. Once teachers begin to understand the unique individuals in their classrooms, they will be able to fine-tune their initial plans for personalization in a way that supports those students.

Teachers Talk: Results of Personalization



[Watch on YouTube](#)

Personalization is by no means easy, but it is feasible. As teachers approach their classrooms with the students' needs in the center of their pedagogy, the needs and desires of the students will frame how the learning outcomes are presented, achieved, and demonstrated. Students and teachers will benefit from the preparation and dedication that each will put forward in the learning process.



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Previous Citation(s)

Graham, C. R., Borup, J., Jensen, M. A., Arnesen, K. T., & Short, C. R. (in progress). K-12 Blended Teaching Competencies. In C. R. Graham, J. Borup, M. A. Jensen, K. T. Arnesen, & C. R. Short (Eds.), *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines*, 2. EdTech Books. <https://edtechbooks.org/-KtaM>



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Evaluating Blended Teaching with the 4Es and PICRAT

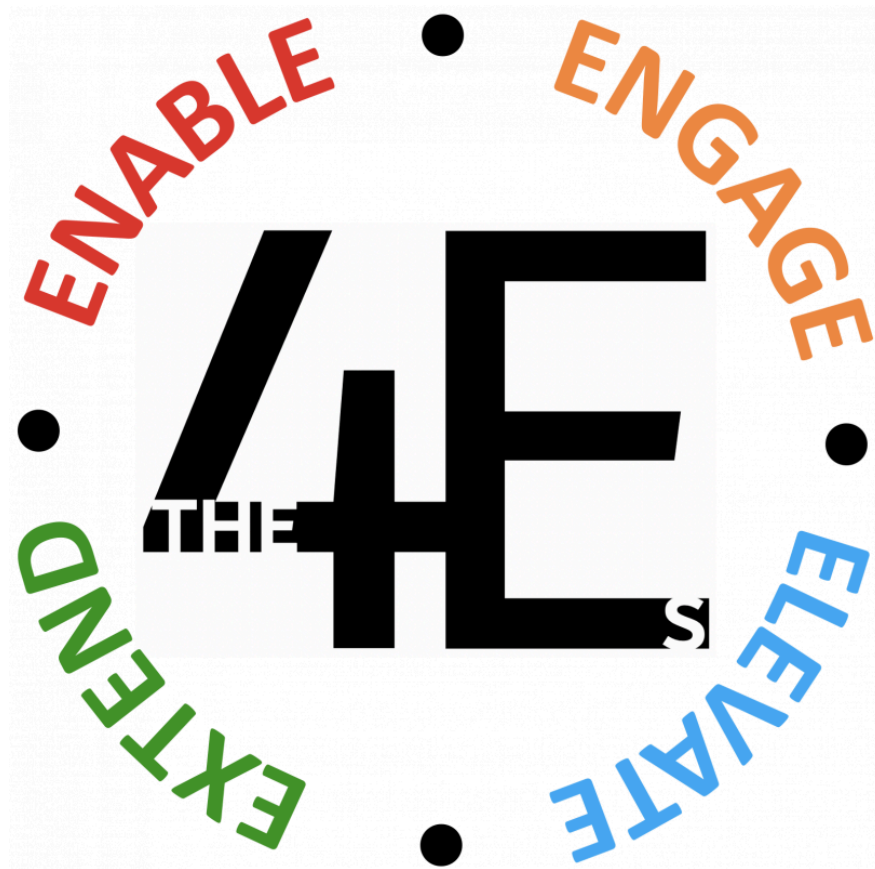
Jered Borup, Charles R. Graham, Cecil R. Short, & Joan Kang Shin

In the first chapter, we explored several scenarios and purposes for blending your students' learning. Regardless of your reasons for blending, it's important to evaluate your teaching and students' learning. Blended learning is the strategic combination of online and in-person instruction. But how will you know if your blended learning strategies are producing the intended results? As you implement your blended learning strategies, it's important that you examine and evaluate their effectiveness and how it has (or hasn't) benefited students' learning. Building on previous research and frameworks such as [David Merrill's \(2009\) e3](#) and [Liz Kolb's \(n.d.\) TripleE](#) frameworks, we identified four evaluation criteria to determine the effectiveness of your blended learning strategies (see Figure 1). Specifically, our 4Es framework asks if your blended learning strategies:

- ENABLE new types of learning activities.
- ENGAGE students in meaningful interactions with others and the course content.
- ELEVATE the learning activities by including real-world skills that benefit students beyond the classroom.
- EXTEND the time, place, and ways that students can master learning objectives.

Figure 1

The 4 Es



"The 4Es" created by Jered Borup, CC BY SA



3.1 Enable

Guiding Question

Do your blended learning strategies ENABLE new types of learning activities?

[Kimmons et al. \(2020\)](#) used the RAT framework to explain that blended learning strategies can use technology in ways that replace, amplify, or transform learning activities (see Figure 2).

Figure 2

The Rat Framework

R EPLACES

Technology sustains current practice without making meaningful changes to the learning activity.

A MPLIFIES

Technology incrementally improves the learning activity in ways that may result in some improvements in learning outcomes.

T RANSFORMS

Technology fundamentally changes the learning activity in ways that may result in significant improvements in learning outcomes.

Education has a long history of using technology to simply replace or digitize learning activities that were previously done without technology. For example:

- handwriting an essay is replaced by typing an essay.
- writing on a chalkboard is replaced by writing on a digital whiteboard. Chalk on a board is replaced by pixels on a screen.
- reading a textbook is replaced by reading an eBook.

These replacements can be a fine use of technology. As long as students have access to the technology, digitizing learning activities can reduce costs following the initial investment to purchase the technology. Additionally, replacing a learning activity using technology can make some learning activities more efficient than they would be without technology. For instance, an essay typed in a word processor can be revised more easily and quickly than a handwritten essay. However, simply replacing an activity will not improve learning outcomes. Best case scenario, students will achieve the same learning outcomes—only more quickly and/or cheaply.

To enable new types of learning that improve learning outcomes, teachers need to use blended learning strategies that move beyond replacing to using strategies that actually amplify or transform learning activities from what could be accomplished without technology.

Amplifying a learning activity requires teachers to introduce technology in ways that enable incremental improvements while the core of the activity remains largely the same. For instance, teachers may find that many of their students have met the target learning outcomes when they are reading students' essays. As a result, the teachers may choose to amplify the essay writing process by having students work in a collaborative document that enables better collaborative opportunities, peer reviews, instructor feedback, and editing. Students can also include multimedia elements to enhance what is written in the essay. Or teachers may use technology in ways that allow students to publish and share their essays in authentic ways. Teachers may also use technology to improve pre-writing activities by engaging students in an online discussion activity to brainstorm and formulate ideas for their essays. What's important to recognize is that the core activity is still the same—writing an essay—but technology enables incremental improvements and enough of these improvements could impact learning outcomes.

Transforming a learning activity is different than amplifying it because the teachers' goal isn't to improve the activity; rather, it's to use blended learning strategies in ways that introduces a new learning activity that they wouldn't be able to do without technology. For instance, rather than making improvements to the essay, teachers may choose to transform

the learning activity by holding a film festival where students write a script, edit a video, and then “premiere” their videos to their classmates and others that are invited to participate.

3.2 Engage

Guiding Question

Do your blended learning strategies ENGAGE students in meaningful interactions with others and the course content?

Engagement is a term with many different meanings. [Borup et al.'s \(2020\)](#) review of research identified three dimensions of engagement:

- Behavioral engagement: the physical behaviors required to complete the learning activity.
- Emotional engagement: the positive emotional energy associated with the learning activity.
- Cognitive engagement: the mental energy that a student exerts toward the completion of the learning activity.

Teachers will often refer to these three dimensions of engagement when they talk about engaging students’ hands, hearts, and heads (see Figure 3).

Figure 3

The Three Dimensions of Engagement

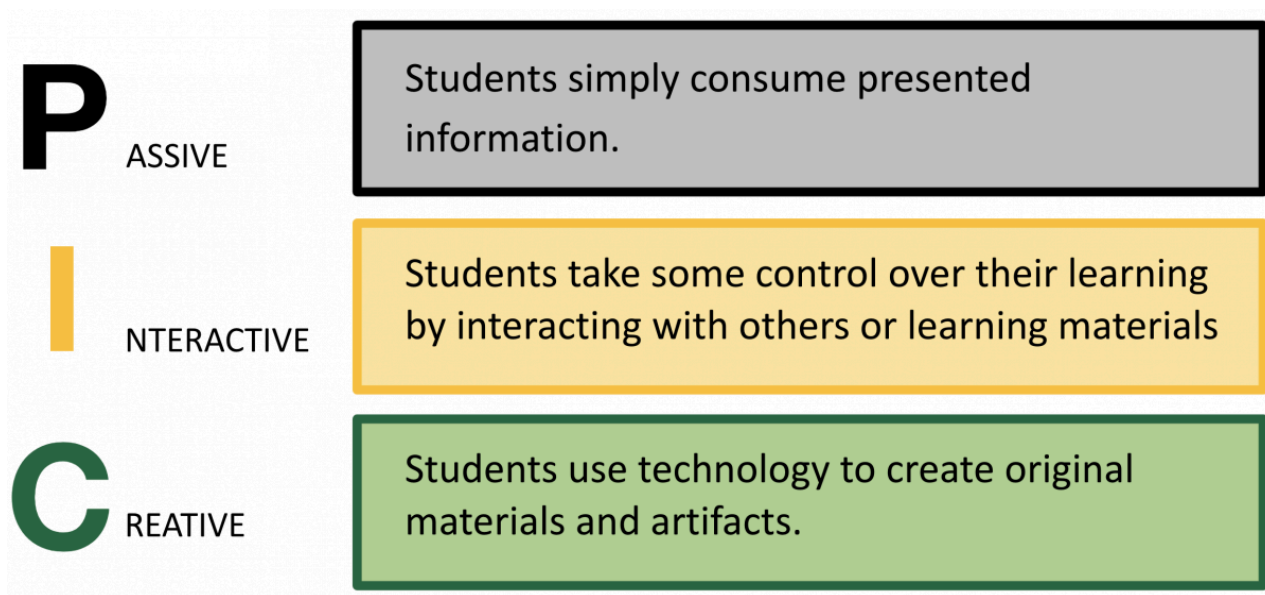


"Engagement" created by Jered Borup using images from Pixabay, CC BY SA

Of the three dimensions of engagement, behavioral engagement is the easiest to observe and categorize. Specifically, [Kimmons et al. \(2020\)](#) used the PIC framework to identify three types of behavioral engagement: passive, interactive, and creative (see Figure 4).

Figure 4

The PIC Framework



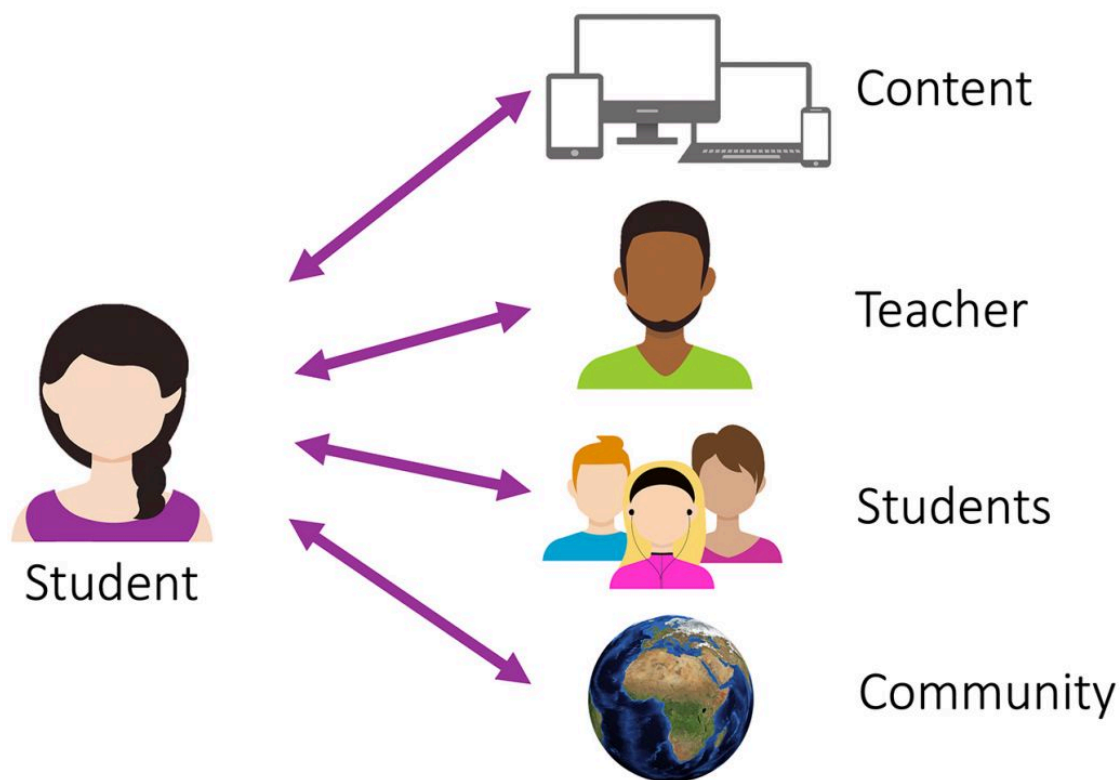
Passive learning examples include students watching a video, listening to a podcast, and attending a lecture. In some ways, these passive learning tasks represent the lack of engagement because they don't require or even allow for students to make meaningful choices or contributions.

Interactive activities are dynamic and require students to actively participate. Interactive activities include tasks where students are interacting with online content and tools. Interactive activities can also include opportunities for students to communicate with others such as the teacher, other students, and those outside of the classroom (see Figure 5).

Figure 5

Four Types of Interaction

Four Types of Interaction



Creative activities go beyond participation to actually creating something original like a blog post, edited video, or digital poster. Table 1 shares some additional examples of online passive, interactive, and creative activities.

Table 1

Examples of Passive, Interactive, and Creative Activities.

Passive	Interactive	Creative
<ul style="list-style-type: none"> • Watching a video. • Listening to a podcast. • Reading an online article. 	<ul style="list-style-type: none"> • Playing educational games. • Participating in an online discussion. • Asking a virtual guest speaker questions. 	<ul style="list-style-type: none"> • Writing an essay. • Editing a video. • Making an infographic. • Creating a website.

It's important to note that each type of behavioral engagement is important at different stages of the learning process. For instance, students may passively listen to a short lecture or watch a video before interacting with their peers regarding their thoughts about what they learned during the passive activity. Similarly, if students are tasked with creating a video essay, they will likely start with passive activities to develop a background understanding of the topic or to learn how to use the video editing program. Students could then interact with their peers to collaboratively create the video. Instructors can also consider when and where passive learning activities occur. For example, sometimes a flipped classroom trades having a passive video watching experience online to make time and space for an interactive/creative learning experience in-person.

When evaluating your blended teaching, it's important to see the value of passive learning activities while also understanding that these types of activities are limited in terms of deepening students' learning. Passive activities like watching a video or reading an article alone do not require students to demonstrate their comprehension of content or encourage higher levels of cognitive engagement, such as applying, evaluating, or creating. Too much time spent in

passive learning activities will limit your students' engagement so be sure to leave ample time for interactive and creative activities.

The following table provides examples of how technology can be used to replace, amplify, and transform activities that don't originally include digital technology (see Figure 6). As you read the table, notice that passive activities can be amplified or transformed by using technology to make the learning less passive and more interactive. Similarly, teachers can amplify and transform activities that are already interactive by using technology to adjust the time and place of the interactions or by allowing students to move beyond interactive activities to creative activities.

Figure 6

Examples Showing the Use of Technology to Replace, Amplify, and Transform No-tech Activities

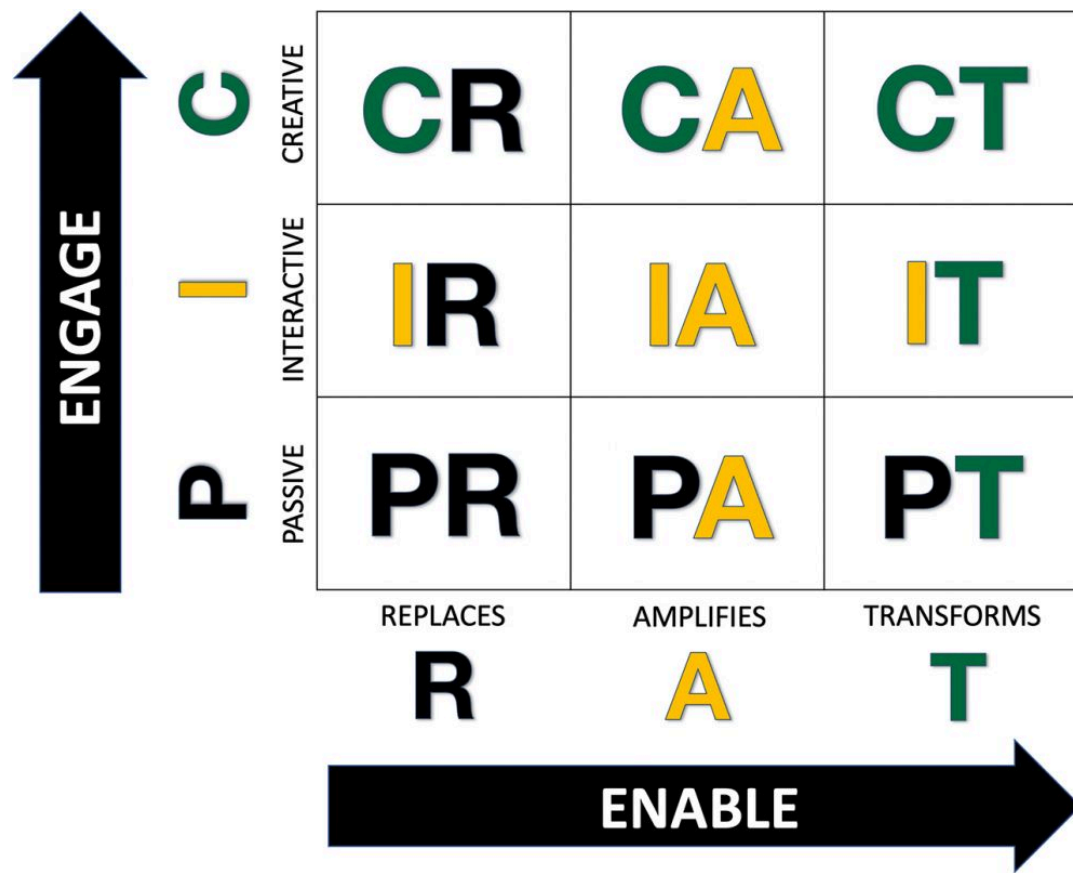
NO-Tech Activity CREATIVE ACTIVITY Students color and label a paper map of the continents. INTERACTIVE ACTIVITY Students engage in a classroom debate to demonstrate persuasive techniques. PASSIVE ACTIVITY Students listen to an in-person lecture to learn new concepts.	Students label an online map and selecting colors for each continent.	Students use a tool like ThingLink to add videos and images that highlight the different attributes of each continent.	Rather than create a map, students collaboratively create a travel website that highlights the different continents for visiting extraterrestrials.
	During class time, students engage in a "silent debate" where comments are written on a discussion forum rather than spoken aloud.	Students engage in a debate that combines in-person communication with asynchronous online communication to increase student participation and reflection.	Rather than engage in a class debate, students collaboratively work on a school-wide or community campaign that includes digital campaigning using posters and public service announcements.
	Students watch a video or online lecture.	Students watch a recorded lecture using a tool such as EdPuzzle that requires students to periodically answer multiple-choice questions.	Rather than watch a lecture, students learn concepts using adaptive learning software that automatically adapts what is taught based on student performance.
	REPLACES R	AMPLIFIES A	TRANSFORMS T

[Kimmons et al. \(2020\)](#) combined the PIC and RAT frameworks to form the PIC-RAT matrix that allows teachers to to chart how technology is being used in their blended learning strategies (see Figure 7). The matrix is a helpful tool for teachers to consider what the technology is adding to the activity. Ask yourself the following questions:

1. Is the technology being used to increase student engagement by making learning activities more interactive and/or creative?
2. Is the technology being used to simply replace activities or to amplify and transform activities?

Figure 7

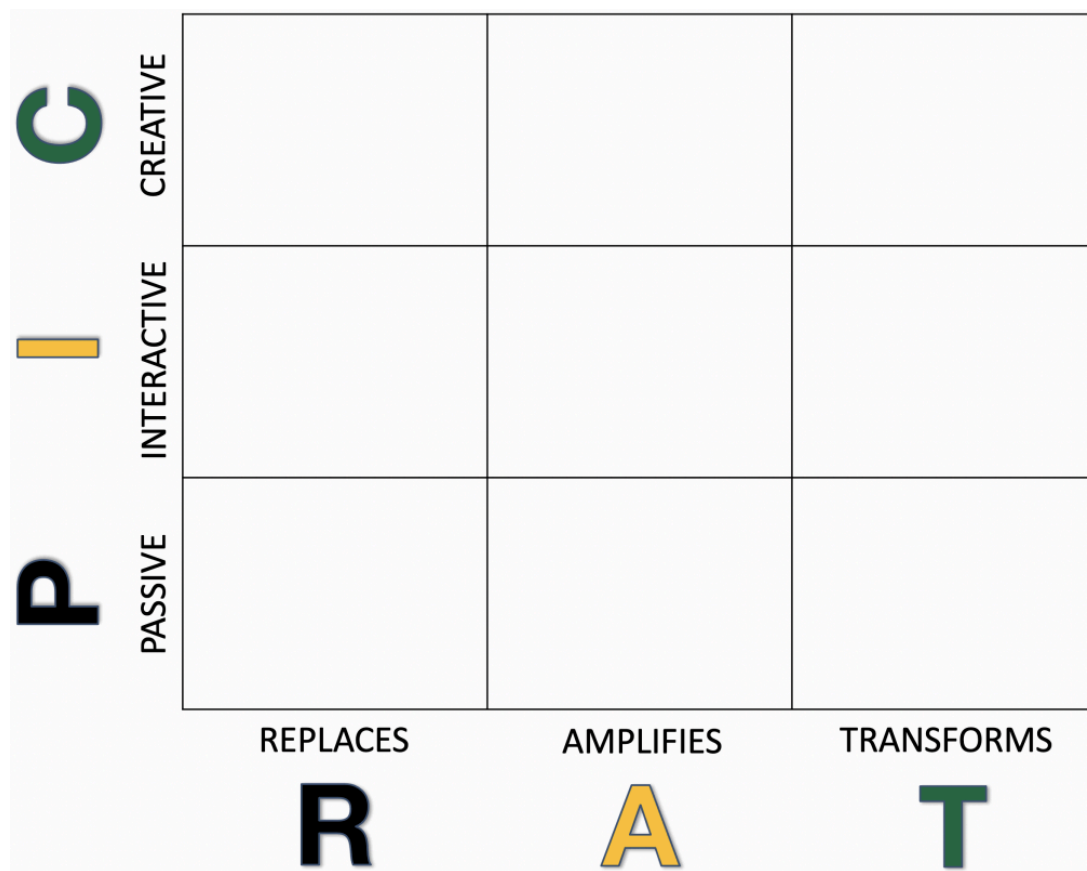
The PIC-RAT Matrix



When planning new blended or online activities, we recommend starting by focusing on the learning objective(s), then pulling out a piece of paper or pulling up a word processing document and filling out the PIC-RAT matrix (see Figure 8) with various ways that technology could be used to teach the learning objective(s).

Figure 8

Blank PIC-RAT Framework for Brainstorming Activities Using Technology



Moving up and across the matrix will likely improve the learning activity, but it's also important to note that the PIC-RAT matrix doesn't actually measure the quality of the learning activity. It's possible for teachers to transform a learning activity by having students create something that wouldn't be possible without technology and still not actually improve students' learning or experience. In fact, it is possible to transform students' learning for the worse. For instance, using the example shared above, a teacher may transform an essay writing activity so that students create an edited video instead. While this transformation may be positive for many students, there could be some students who detest making an edited video and refuse to participate. Similarly, a teacher may transform a passive learning activity into a creative learning activity that isn't as aligned to the learning outcomes. As a result, when amplifying or transforming a learning activity to increase students' behavioral engagement it's important to consider the other two dimensions of engagement—emotional engagement and cognitive engagement. Students will perceive the activity as “busy work” if teachers only engage their hands but fail to also engage their hearts and minds (see Figure 9).

Figure 9

Busy Work

Busy Work

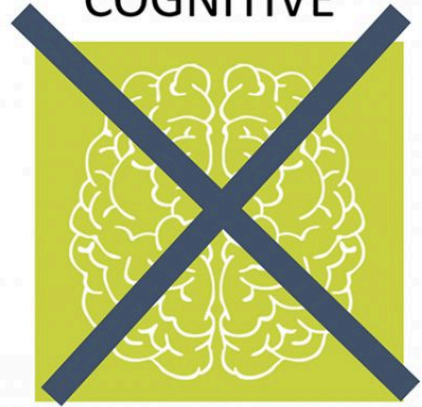
BEHAVIORAL



EMOTIONAL



COGNITIVE



As you go through these chapters, you have the opportunity to reflect on what you have learned and to design your own activities in the [Blended Teaching Workbook](#). Click on the link to access your workbook. Make sure you save a copy and keep it available, so you can return to it as you go through the chapters.



Blended Teaching Workbook

In your workbook is a copy of the PIC-RAT grid. Use it to brainstorm activities you could use in your classroom. You can access the workbook [here](#).



3.3 Elevate

Guiding Question

Do your blended learning strategies ELEVATE the learning activities to include real-world skills that benefit students beyond the classroom?

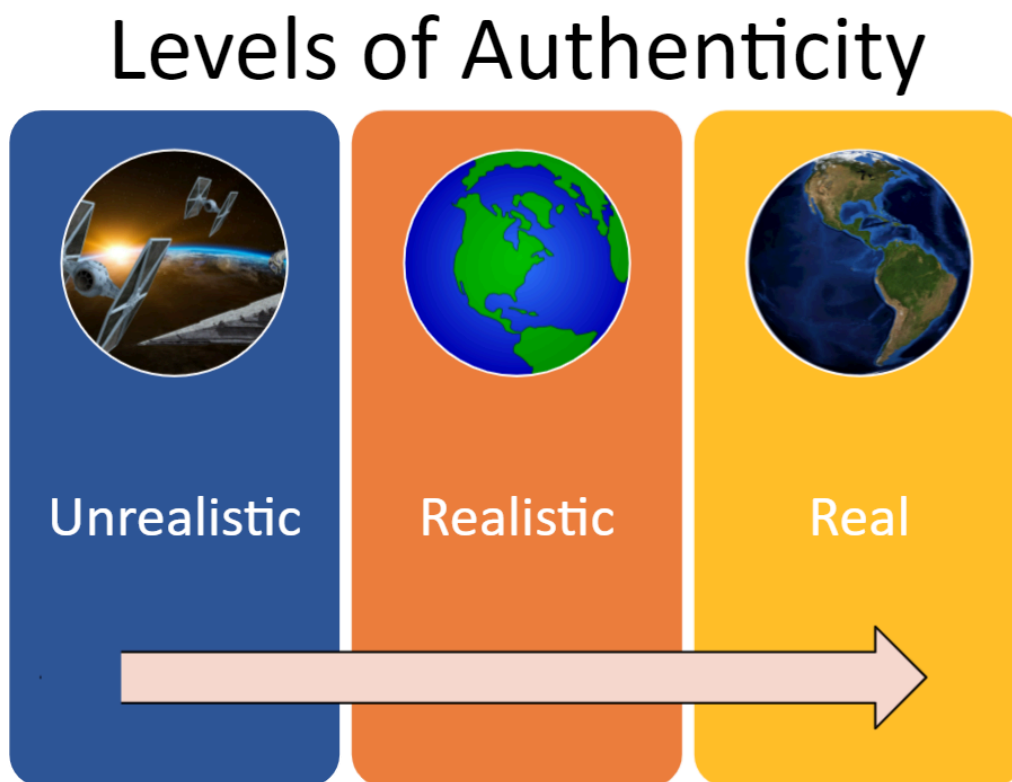
In addition to creating learning activities aligned with the course learning objectives, teachers' blended learning strategies can elevate students' learning to also include real-world skills that benefit students beyond the classroom. For example, the Partnership for 21st Century Learning stresses the need for students to develop the 4Cs—communication, collaboration, critical thinking, and creativity skills (<https://www.battelleforkids.org/networks/p21>). While widely-referenced and important, the 4Cs also take a somewhat narrow view of the skills that students need to succeed beyond the classroom. For [Ontario's education agenda](#), Michael Fullan (2013) expanded on the 4Cs to include character education and citizenship. Social-emotional learning is also critical for human development. These skills are best developed in a social learning environment. Clearly, students can't develop communication, collaboration, and citizenship skills in isolation. Even critical thinking and creativity skills are best developed when working with others. This provides more support for balancing passive activities with interactive and creative activities while urging teachers to elevate their instruction.

Learning activities are also best elevated when activities are situated in authentic tasks and projects. There are three levels of authenticity when you are considering the problems and stakeholders that students will be working on and with (see Figure 10).

- **Unrealistic:** These scenarios and problems can be out of this world—literally! Stakeholders and problems can be science fiction and include anything from time traveling to establishing a colony on Mars. They are intended to make the unit more exciting and emotionally engaging while still requiring students to demonstrate important knowledge and real-world skills.
- **Realistic:** These are scenarios and problems that feel like they are real but aren't. Real people can even serve as stakeholders but they are really just acting. For example, students might simulate creating a new business by coming up with a new product and working in groups to come up with the name of the product, a business plan, and a marketing plan. It is completely realistic, but they won't be really starting a new business!
- **Real:** This is the gold standard because you have real people who are really interested in and will benefit from students' work. These stakeholders can be of any age and in and out of the school. For example, students could work in groups to discuss some problems in their community, such as littering in their local park or school grounds. They might create memes, GIFs, and short video public service announcements to urge people to keep the park and playground clean that they can post on social media and distribute through local government social media.

Figure 10

Levels of Authenticity



"Levels of Authenticity" created by Jered Borup using images from Pixabay, CC BY SA

Authentic assessments are often renewable rather than disposable. Consider the target audience of most assessments—who it is that students are completing assessments for—themselves, their community, their teacher? Often assessments are completed for an audience of one, the teacher. The teacher then evaluates the assessment, provides

the student with some feedback, returns the assessment to the student, and hopes that the student uses the feedback to enrich their learning before the assessment is discarded in the trash can (or on the floor, or left on a desk) when class ends. These assessments are often seen as "disposable assessments." They are meant to be used and then discarded without retaining any real-world value.

"A 'renewable assessment' differs in that the student's work won't be discarded at the end of the process, but will instead add value to the world in some way." ([David Wiley, 2016](#)).

A movement toward assessments that can exist in a world that is larger than the four walls of a singular classroom can make learning more authentic and elevate what students learn and do beyond content-based curriculum and contexts. For example, a community college instructor found that having her students write an openly licensed textbook that would be shared with other students instead of traditional essays caused them to "write better than they've shown me in the past" ([Short et al., 2024](#)). Students want to know that their work matters and is destined for more than the nearest trashcan.

Table 2 gives some examples of renewable and disposable assessments.

Table 2

Renewable and Disposable Assessments

Renewable Assessments
<ul style="list-style-type: none"> • Students create a documentary about the life of a war veteran in their community. • Students create tutorial videos to help teach math concepts to peers. • Students create artwork to beautify the walls of city buildings. • Students create a picture dictionary to share with younger students.
Disposable Assessments
<ul style="list-style-type: none"> • Multiple choice exam • Short essay quiz • 5-page paper to check understanding or ability • Spelling test
Additional Resources
<ul style="list-style-type: none"> • Renewable assignments: Student work adding value to the world • Non-disposable Assignments in Intro to Philosophy • From Consumer to Creator: Students as Producers of Content • Are your assignments renewable or disposable? • What is Open Pedagogy -> Killing the disposable assessment



3.4 Extend

Guiding Question

Do your blended learning strategies EXTEND the time, place, and ways that students can master learning objectives?

Another way that blended learning strategies can improve learning activities is by extending the time, location, and ways that students complete learning activities. Attempting to extend students' learning time and location is nothing new. For instance, students have long had flexibility in the time and location that they completed homework. However, too often students are tasked with completing homework without adequate support resulting in frustration for both students and parents, as hilariously shown in the following video clip.



[Watch on YouTube](#)

Using technology teachers can not only provide students with more sensory-rich learning materials, within a learning management system (LMS) they can also provide them with digital scaffolding and direction to successfully complete learning activities using those materials. For instance, it's relatively easy for teachers to create short instructional videos that can help students to learn new concepts or complete learning tasks. [One teacher \(Farah, 2019\)](#), explained that creating instructional videos allowed him to "clone" himself so students could receive his help in the moment they needed it, not when he was presently available to help them. Once teachers feel comfortable making quick videos, they can use them to provide targeted scaffolding anytime students find something confusing or difficult. This allows the teacher to tailor instruction to specific students or classes.

This use of technology can also provide students with the flexibility in the pace of their learning and allows teachers to implement mastery-based grading. For instance, when learning activities are clearly organized in an LMS, students can complete and submit assignments that the teacher can then review and provide feedback on until students achieve

mastery. Providing quality feedback efficiently is especially important in a mastery-based grading system. Although detailed feedback is always time-consuming, technology can help lighten the load as we will see in the following chapters of this book.

Teachers can also extend the ways in which students complete learning activities. For example, teachers may provide students with multiple learning paths to choose from using a choice board. A choice board is a graphic organizer, usually in a grid of 4, 6, or even 9 spaces, with activities that students can choose to do. Often teachers design them to appeal to their learners' interests, talents, and abilities. Creating multiple activities that all lead toward mastery of your learning objectives allows students choice in their learning path—hopefully with choices that will motivate them and inspire them to do their best work. Once learning has been extended, teachers can also provide students with opportunities to form their own learning path and/or set learning goals.



3.5 Conclusion

Combining in-person and online instruction doesn't mean that the blended learning will be high-quality—or even good. As you begin to blend your students' learning, you will likely find that some lessons or even entire instructional units don't go as well as expected. The opposite will also be true and you will find that other blended lessons and units go incredibly well. As blended teachers it's important to carefully evaluate what works and what needs to be improved or even replaced. The 4Es framework can help you recognize quality blended teaching and learning. Specifically, as you plan new blended instructional units or evaluate previous blended instruction, ask if your instructional unit would or did:

- ENABLE new types of learning activities.
- ENGAGE students in meaningful interactions with others and the course content.
- ELEVATE the learning activities by including real-world skills that benefit students beyond the classroom.
- EXTEND the time, place, and ways that students can master learning objectives.



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Previous Citation(s)

Borup, J., Graham, C. R., Short, C. R., & Shin, J. K. (in progress). Evaluating Blended Teaching with the 4Es and PICRAT. In C. R. Graham, J. Borup, M. A. Jensen, K. T. Arnesen, & C. R. Short (Eds.), *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines*, 2. EdTech Books. <https://edtechbooks.org/-aCm>



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Discipline Specific Blended Teaching

Elementary Education: Intro to Blended Teaching
EIEd: Why Blend?
EIEd: Online Integration & Management
EIEd: Online Interaction
EIEd: Data Practices
EIEd: Personalization



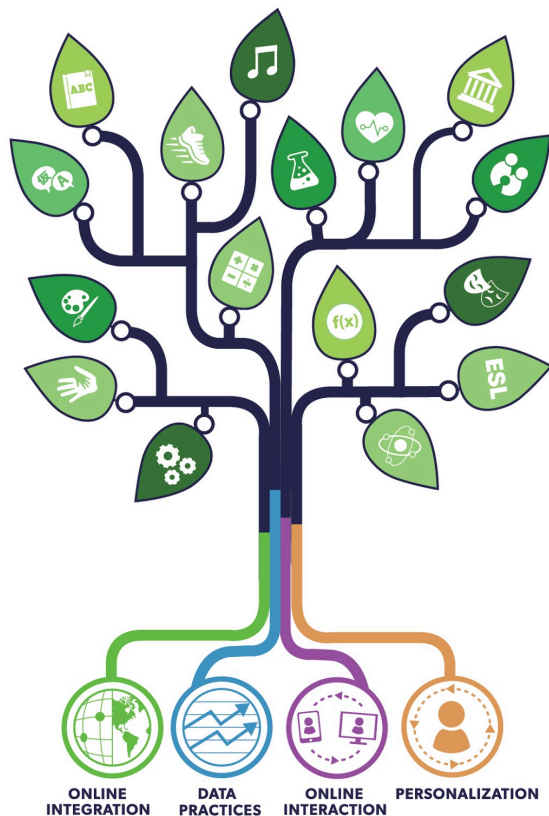
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Elementary Education: Intro to Blended Teaching

Jered Borup, Bridgette Joskow, Chawanna Bethany Chambers, & Nicole Sandrowicz

4-1 Purpose



The purpose of these chapters are to help you prepare to design and implement blended learning within the Elementary Education (EEd) classroom. The image on the cover of the book shows a broad range of disciplines, each represented by a branch of the tree. The four core skills for blended teaching are represented by the common roots of the tree that feed the branches.

While there are some broad commonalities in how blended learning looks across contexts, there are also many subtle and unique approaches to blended teaching within each grade level. As a result, this set of chapters is geared towards providing examples of blended teaching that are specific to the EEd classroom.

In these chapters we also use examples from practicing teachers. They will help you see blended teaching in the EIED context through the lens of the following blended teaching competencies: online integration, online interaction, data practices, and personalization.

4.2 Meeting the Elementary Education Blended Teachers

In these chapters, you will receive instruction and ideas from experienced EIED teachers. Learn more about some of these teachers below.

Meet Your Teacher: Chrissy McLaughlin (1:31)



Meet Your Teacher

Chrissy McLaughlin
~ Elementary Education Teacher

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Meet Your Teacher: Madiha Siddiqui (0:47)



Meet Your Teacher

Madiha Siddiqui
~ Elementary Education Teacher

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~ Elementary Education Teacher

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Meet Your Teacher

Dr. Chawanna Chambers

Elementary Education Teacher



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Liliana Daza Carrizosa

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Let's start in the next chapter with learning why we might want to blend an EEd classroom.

Previous Citation(s)

Borup, J., Joskow, B., Chambers, C., & Sandrowicz, N. (in progress). Elementary Education: Intro to Blended Teaching. In C. R. Graham, J. Borup, M. A. Jensen, K. T. Arnesen, & C. R. Short (Eds.), *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines*, 2. EdTech Books. <https://edtechbooks.org/-GYE>



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EIEd: Why Blend?

Bridgette Joskow, Jered Borup, Chawanna Bethany Chambers, & Nicole Sandrowicz



5.1 Blending in Elementary Teaching

The first question you should ask yourself before embarking on the journey of blended teaching is “Why blend?” Teachers who are still searching for their answer to this question may end up spending a lot of time, energy, and resources implementing changes that do not serve any larger goal or purpose.

Guiding Question: Why Blend?

Teachers must answer the question “Why blend?” It is not sufficient to blend just because it is popular or because others are doing it. Each teacher has their own journey to blended teaching and purposes for doing so. In the videos below, elementary teachers share how blended learning has become an integral part of their classrooms. As you watch the following videos, consider your own reasons for wanting to blend your students’ learning.

Why I Blend: Chrissy McLaughlin (3:15)



Why I Blend

Chrissy McLaughlin

~ Elementary Education Teacher

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Why I Blend: Angela Johnson (1:20)



Why I Blend

Angela Johnson

~ Elementary Education Teacher

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Why I Blend: Madiha Siddiqui (2:25)



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Why I Blend

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~ Elementary Education Teacher

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Why I Blend: Bridgette Joskow (1:04)



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Why I Blend

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~ Elementary Education Teacher

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[Watch on YouTube](#)

Why I Blend: Nicole Sandrowicz (2:05)



Why I Blend

Nicole Sandrowicz

Elementary Education Teacher



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Why I Blend: Liliana Daza Carrizosa (1:34)



Why I Blend

Liliana Daza Carrizosa

Elementary Education Teacher



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Why I Blend: Emily Fox (2:02)



Why I Blend

Emily Fox

Elementary Education Teacher



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5.2 Reasons for Blending

While there are countless reasons for blending your teaching, most reasons focus on improving one or more of the following:

- **Learning**—Blended classrooms can improve student learning by increasing personalization, allowing for more individual and small group instruction, making better use of classroom time, providing more ways for students to make their learning visible, improving how students and teachers communicate, and adding relevance to learning activities.
- **Efficiency**—Blended classrooms can help students complete learning activities in less time and with less energy, help students stay more organized (less likely to lose assignments), make it easier for teachers to share, reuse, and adapt resources at little or no cost.
- **Access and Flexibility**—In blended classrooms students have access to materials and learning activities anywhere and anytime. In fact, there are some resources and activities that can only be done with the online component. Teachers can also provide students with digital directions and scaffolds to help guide and support students during digital learning activities. Teachers can also use online technologies to make activities and materials more accessible to all students (especially those on individualized education plans or IEPs). For instance, digital technologies make it easier for teachers to provide students with [multiple means of representation](#).

Oftentime teachers have multiple reasons for blending, but almost always one of these three reasons is primary in their minds. Table 1 shows some simple examples in elementary classrooms and how they might help the teacher to achieve multiple purposes simultaneously.

Table 1

Examples of multiple purposes for a blended activity

Blended Example	Blended Purpose
Facilitates student collaboration and feedback across the curriculum.	<p>Learning: Collaboration is an important aspect of learning. While facilitating meaningful student collaboration can be challenging, online technologies can help. Teachers can also provide formative feedback using text and tracked changes in documents or using screencasts showing the exact location students need to revise, making it much easier to implement the suggestions. Digital projects can also be easy for students to update and improve without students feeling like they have to “start from scratch.”</p> <p>Since digital projects can be accessed by multiple people simultaneously, it becomes much easier for students to provide feedback to each other, giving them opportunities to build critical thinking and communication skills.</p>
	<p>Efficiency: Making physical copies of student papers increases cost and requires time and effort that could be spent elsewhere. Additionally, we as elementary school teachers spend a lot of time lugging home stacks of turned-in assignments, writing feedback, and then returning them the next day. Online projects eliminates the need to take home bags full of paperwork and allows the automatic sharing of feedback in a way that is accessible by all students and saves time in class. This feedback can be provided using text, but also through audio and video recordings which can be more efficient in many cases and for some assignments.</p>
	<p>Access & Flexibility: Online communication and collaboration tools allow students to continue collaborative tasks anywhere and any time they have an internet connection. When students receive virtual feedback, they can also access their feedback from anywhere with an internet connection.</p>
Creates a space for discussions that involve all class members.	<p>Learning: Many students struggle to fully participate in class discussions for a variety of reasons, while others feel so comfortable participating that they dominate the conversations. Online discussions give everyone the opportunity to participate (meaning they have time to discover what they think), creating more robust, reflective, and divergent discussions. On the flipside, lower learning students can use the responses from their peers to craft and build an understanding as a way to scaffold and build confidence in their thinking. However, online discussions can lack synergy and excitement. As a result, some of the best learning outcomes come from discussions that blend in-person and online communication.</p>
	<p>Efficiency: When compared to in-person discussions, online asynchronous discussions can be less efficient. However, online discussions are a more efficient way to give every student a voice.</p>
	<p>Access & Flexibility: Online discussions allow all students to voice their ideas. Many online platforms also allow students to communicate through speaking, writing, or drawing when sharing their ideas. As a result, students with varying abilities and skills can participate.</p>
Promotes differentiated instruction across the curriculum.	<p>Learning: Based on data, students can be assigned learning activities and material specific to their needs and weaknesses in the different areas of a given subject. Students who don’t need to work on a skill don’t have to, allowing them to work on skills that provide enrichment and deepen understanding. Students who don’t understand how to use a skill can receive instruction and activities designed to help them learn the concept. In addition, Blended Classrooms often blend curriculum areas. This allows concepts to be taught not in isolation but are practiced and learned throughout the day with multiple subjects. These data practices also provide effective information for feedback between teacher-student interactions as well as provide effective interactions between teachers and parents.</p>
	<p>Efficiency: Students don’t waste time working where they are already proficient. They don’t have to wait for other students to catch up or worry about being behind.</p>

Blended Example Blended Purpose

Access & Flexibility: Students have access to instruction specifically targeted to their needs. They have the flexibility to access the content they need and which they have not already mastered.

Think about why you would like to blend your classroom. In your blended teaching workbook, write your thoughts, creating your own purpose.



Blended Teaching Workbook

Write a brief statement about why you want to blend your classroom. Which purposes and outcomes are you most interested in for your blend? If you have not already accessed your workbook, you can access it [here](#). Make sure you save your copy where you can use it again as you go through the elementary education chapters.



5.3 Common Challenges to Teaching/Learning in the Elementary Classroom: Problems of Practice

All teachers face challenges. It's part of the nature of sharing a learning journey with a large number of young people. For many teachers, like 5th grade teacher Bridgette Joskow in the video below, blended teaching helps them address and overcome some of those challenges.

Teachers Talk: Creating a More Effective Classroom (3:26)



Creating a More Effective Classroom

Bridgette Joskow
~ Elementary Education Teacher



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Reflection question: How can blended teaching make your classroom more effective?

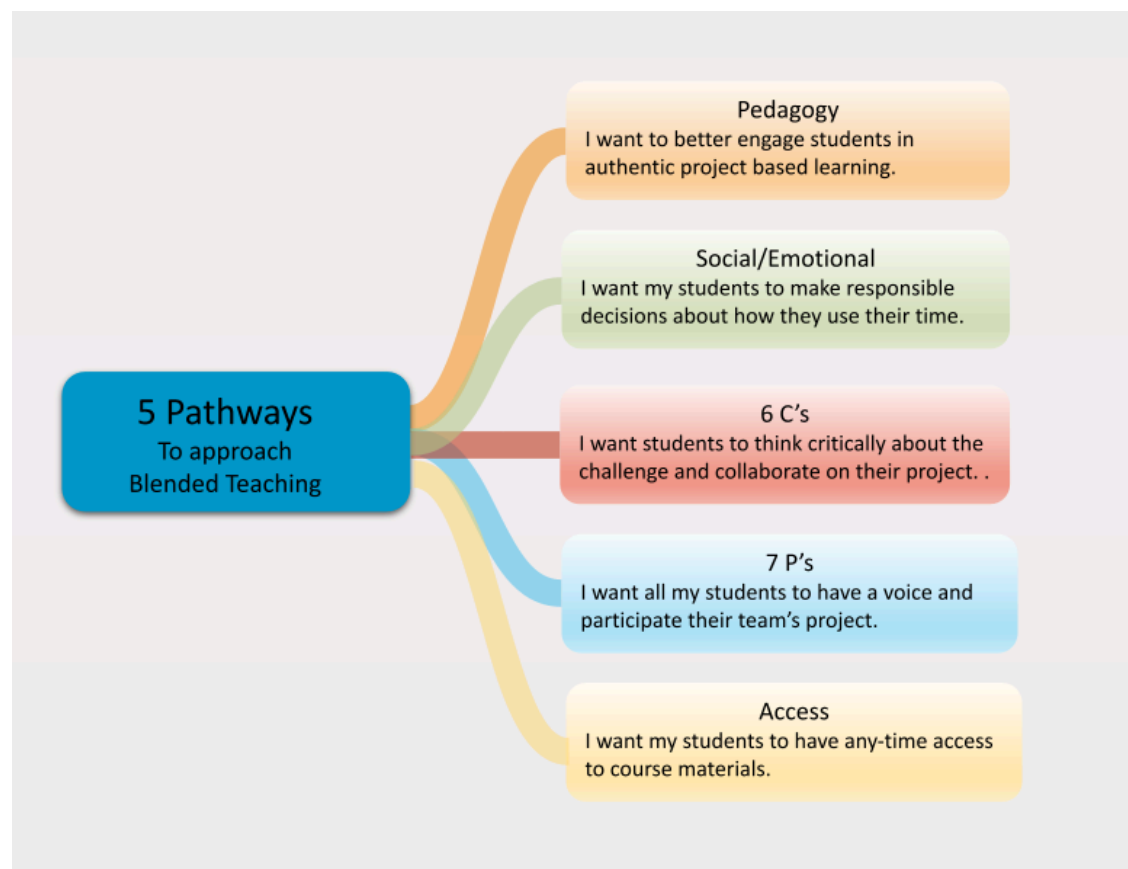
Your choice to blend will be more meaningful to you and your students if it helps to address challenges that you and your students face in the traditional non-blended classroom. We refer to these challenges as “problems of practice.”

Definition: Problem of Practice

A problem of practice is a current problem or challenge that you believe could be improved through blended teaching.

Problems of practice can fall under any of the three purposes outlined in section 1.1. However, the most meaningful and powerful problems of practice for teachers deal directly with improving learning outcomes for their students.

Fig. 1 Problems of Practice in Elementary Education



These five pathways are a powerful tool to help you think deeply about problems of practice that are relevant to you. Once you identify specific challenges in your current approach to teaching, you will be able to begin to explore what online approaches may be combined with your in-person approaches to make a better experience for your students and you alike. This process energizes you and your teaching. Teachers who choose to blend often find that they enjoy teaching in new and fulfilling ways.

Teachers who choose to blend often find that they enjoy teaching in new and fulfilling ways. Below Texas administrator Dr. Chawanna Chambers explains how blended learning helps her support teachers to prevent burnout.

Administrator Advice: Combatting Teacher Burnout (5:14)



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Reflection Question: How can you use the affordances of technology to streamline your grading and give pertinent feedback?

Now that you have reviewed the five pathways to identifying problems of practice, it is your turn to look at your own practice and try to identify a couple of challenges that you can consider as you continue throughout these elementary education chapters. What student outcomes and teaching practices would you like to improve? What stands in the way of your teaching having the impact you would like it to have?



Blended Teaching Workbook

Identify 2-3 problems of practice (PoP) that you can use as you consider blended options for your classroom.

Note: You should identify several problems of practice (PoP) because not every PoP has a good blended learning solution.

If you haven't already opened and saved your workbook, you can access it [here](#).

Previous Citation(s)

Joskow, B., Borup, J., Chambers, C., & Sandrowicz, N. (in progress). EIED: Why Blend? In C. R. Graham, J. Borup, M. A. Jensen, K. T. Arnesen, & C. R. Short (Eds.), *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the*



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EEd: Online Integration & Management

Bridgette Joskow, Jered Borup, Chawanna Bethany Chambers, & Nicole Sandrowicz



6.1 Online Integration and Management in the Elementary Classroom

Online integration is at the very heart of blended teaching. It has to do with how you combine your in-person classroom with online activities (the baker mixing dry and wet ingredients from Chapter 1). Because the main component of blended learning is integrating online and in-person activities, online integration is a good place to begin thinking about blending your classroom.

This is where you, as an elementary teacher, can consider what specific online practices can help you address the problems of practice you encounter when teaching the different content areas (you would have identified problems of practice in Chapter 5). The more examples of blended teaching you have personally seen and the more experience you have with online and blended teaching, the easier this process will be for you. But even if you are just starting out, don't worry! This chapter will help you explore ideas and possibilities.

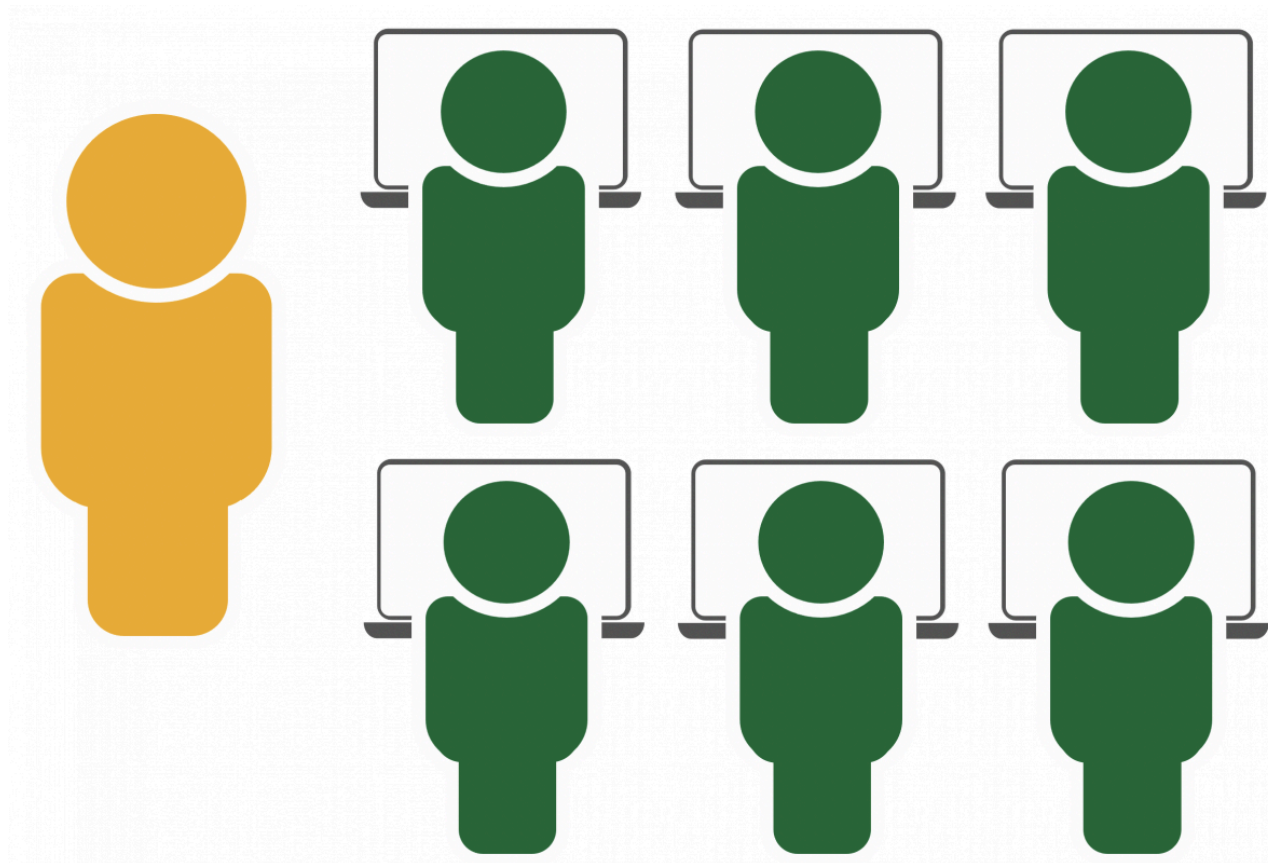
Although blended teaching can seem overwhelming, experienced blended teachers say that the best way to go about this process of starting to blend is to think big but start small. Small beginnings allow you to wet your toes in the process, focus on specific pedagogies and activities, see the benefits and drawbacks, and make improvements on a small scale without becoming overwhelmed by the process. Go ahead, test the water—you will be swimming in no time!



6.2 Thinking Big: Blended Learning Models

One way to start to “think big” is to consider the different blended learning models used to organize your classroom. These blended models are only guides and can be adapted based on your context and students’ needs. We will only briefly highlight a few of the models that are most commonly used in the elementary classroom, but for a more detailed review of each of the blended learning models, see [Chapter 2: Online Integration in *K-12 Blended Teaching: A Guide to Personalized Learning and Online Integration*](#).

6.2.1 Flex Model



There are lots of different approaches to the flex model, from relatively simple to highly complex. What all of the approaches have in common is that “online learning is the backbone of student learning,” allowing students to fluidly work through learning activities at their own pace. Since the teachers are not delivering the instruction or direction, they can act as facilitators and spend their time working with students one-on-one or in small groups.

The Flex model could be as simple as students using an adaptive learning software to develop literacy skills. That software can provide teachers with data that they use to provide targeted support. Similarly, teachers can create their own online learning modules on a website or learning management system and provide enough scaffolding and direction that students can complete the activities at their own pace.

The flex model can also be highly-complex with multiple facilitators who help students through complicated tasks. For instance, the video below shows how the 6th grade teachers at Agnew Middle School combined to implement a passion-based project using the flex model.

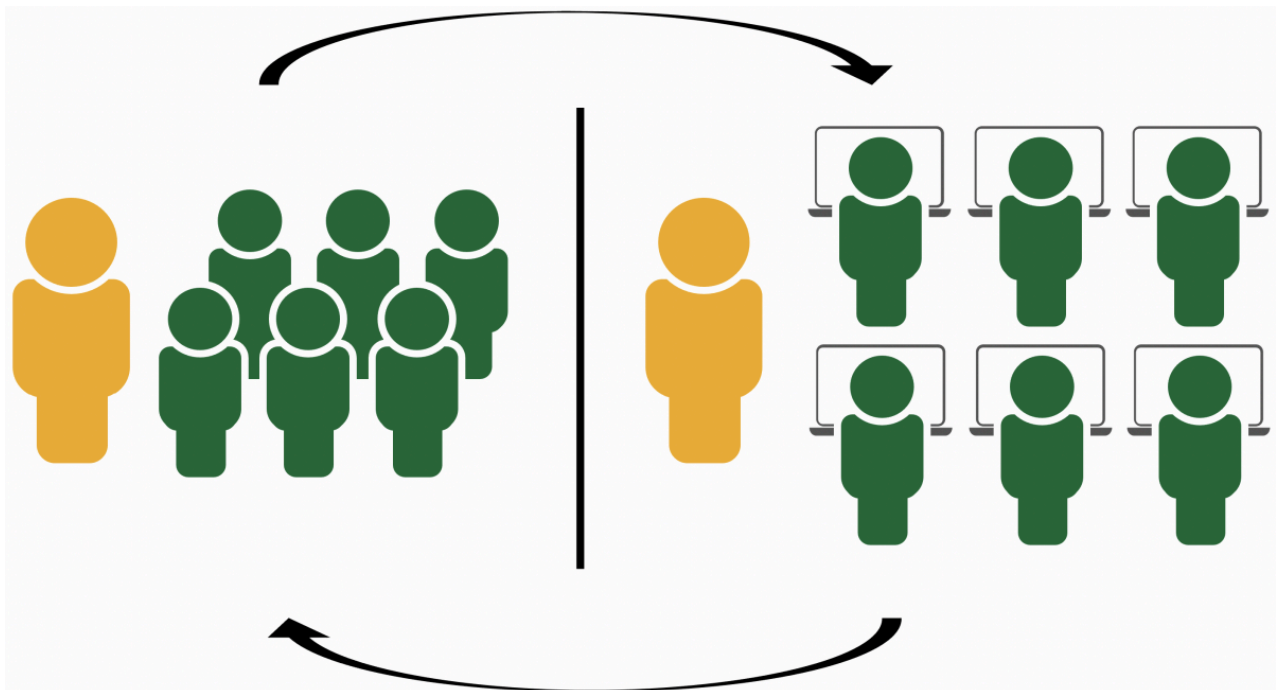
Teachers Talk: Teaching Differently (:57)



[Watch on YouTube](#)

Reflection question: What can you take from this large-scale implementation and apply to your blended classroom?

6.2.2 Lab or Whole Group Rotation Model



The Lab or Whole Group Rotation model is perhaps the simplest blended model, one that we have seen for decades. In this model, all of the students in the class rotate between the classroom and a computer lab. When all students in the class have access to their own device in the classroom, teachers don't need to leave their classroom to go to a computer lab but can rotate the entire class from an activity that doesn't use technology to one that does. An important criteria in this model is that there are meaningful connections between the off-line and online activities. The following video shows an example of whole group rotation in a high school but you can imagine how it might look in your elementary classroom.

Whole Group Rotation – Blended Learning with Catlin Tucker

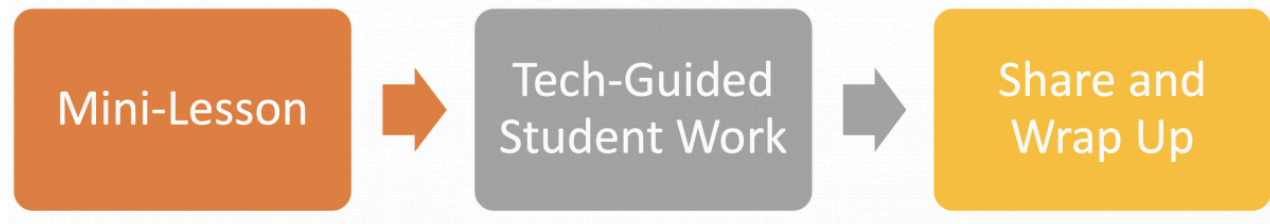


[Watch on YouTube](#)

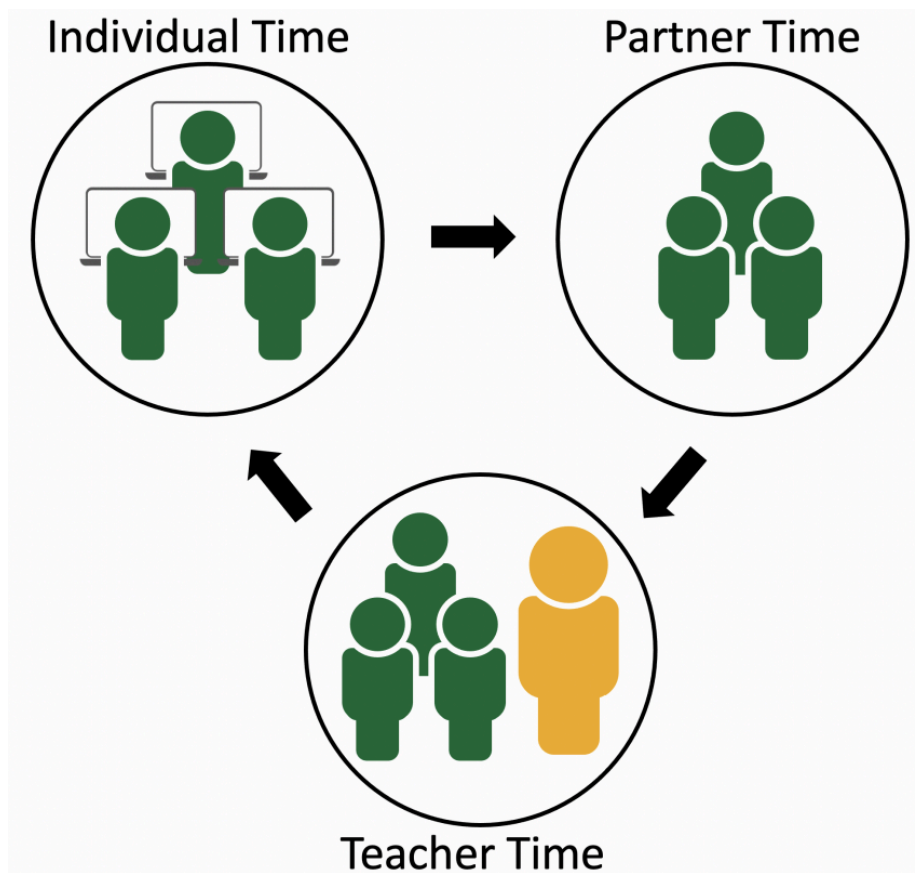
Reflection question: In this video we see an example of whole group rotation in a high school classroom. What would a whole group rotation look like in your classroom?

One adaptation of the whole group rotation is the workshop model. Workshops typically start with a mini-lesson with direct instruction or guided practice. Students apply what they learned either independently or collaboratively. The workshop then ends with a share or wrap-up activity. The workshop model, such as a writing workshop, has long been used without technology but became popular during the pandemic when teachers were tasked with teaching some students online and in class concurrently. Similar strategies can be used when all students are in the classroom by using technology to guide student work between the mini-lesson and sharing portion. However, technology can also be used in all phases of the workshop.

Workshop Model



6.2.3 Station Rotation Model



The station rotation model is perhaps the most commonly used model at the elementary level. This will be especially familiar to you if you've ever done rotating stations in your classroom such as [the Daily 5](#). Rotating stations are great for elementary teachers because it affords them the opportunity to work with students one-on-one or in small groups. The station rotation blended model is different because in at least one of the stations, students are learning using technology. When it's done well, the learning program that students are using in their individual time center will provide the teacher with important assessment data that they can then use to differentiate their instruction when the student comes to their center. Often only one station requires the students to use technology so this model is particularly helpful when each student doesn't have access to a device at the same time.

This model is also highly adaptable and may look different for you compared to the teacher next door teaching the same learning objectives. It can be set up in a way where students have choice in their path of their learning and the stations they access, or you can set up a schedule for when students are working on certain tasks at a specific time. The following is one example that may help to spark ideas for how you could use the model.

Station Rotation: Differentiating Instruction to Reach All Students



[Watch on YouTube](#)

Reflection question: Station rotations are fairly common in elementary classrooms. What ideas did this example spark that you can use to start or improve station rotation in your classroom?

Your expectations may also differ based on the subject being taught. For instance, in math you may give students flexibility for what practice stations they access while in Language Arts you may be more purposeful with your grouping to ensure you meet with certain students all at the same time for small group reading and writing.

The stations can be organized differently based on the technology being used. For instance, Angela Johnson's kindergarteners use iPads that students can easily take from center to center. To help organize and guide their center time, Angela uses QR codes (see the video below).

Teachers Talk: Using QR Codes to Organize Stations (2:38)



Using QR Codes to Organize Stations

Angela Johnson

~ Elementary Education Teacher



Online Integration

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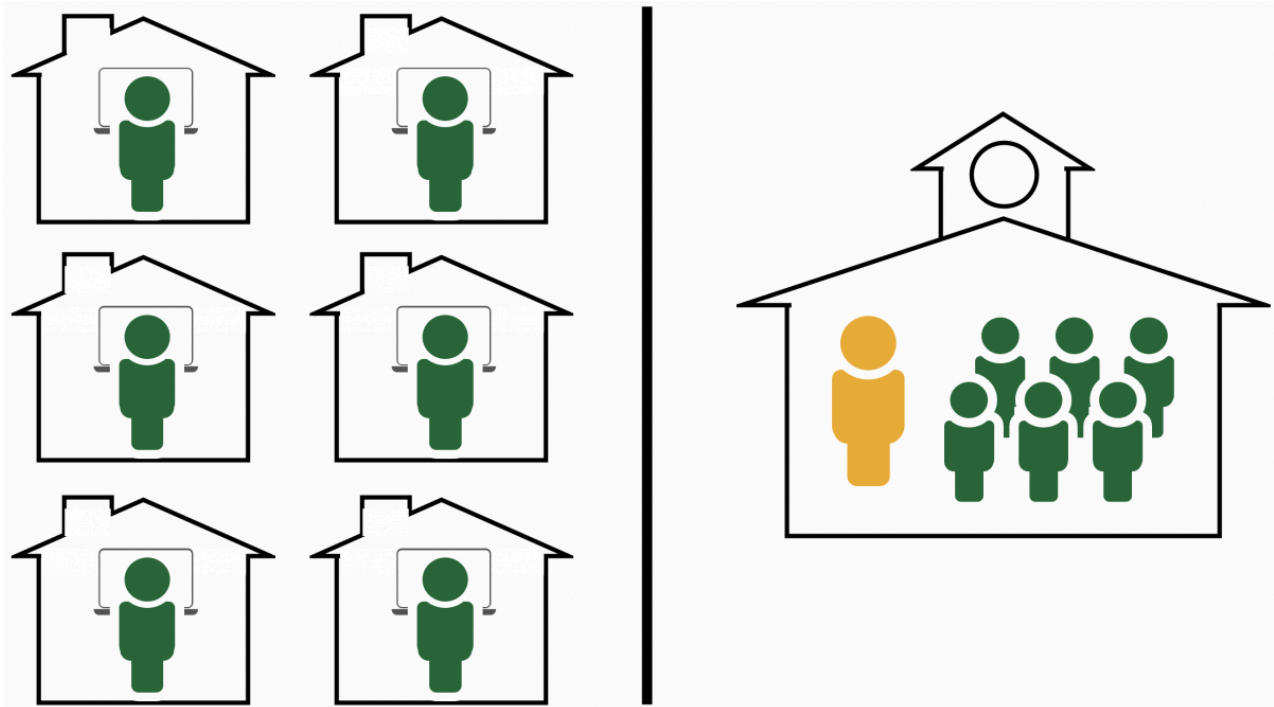
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[Watch on YouTube](#)

Reflection question: How could you use technology such as QR codes to help organize your students' learning in a station rotation model?

6.2.4 Flipped Model



The flipped classroom allows the learning of a new skill/concept at home for homework—commonly by watching videos—to allow for practice, application, and discussion in the classroom. Don't worry, if you choose to try this model out you do not need to create all the videos! You can find great already-made videos on platforms such as Khan Academy and YouTube. Some platforms such as EdPuzzle make watching videos more interactive by requiring students to answer questions while they watch. A downfall to this however is it requires students to have access to technology at home. As a result, some teachers have adapted the flipped model by having students watch the videos in the classroom, as seen in the following video. Similarly, some teachers may find that the station or lab rotation models are a better approach.

Flipped Classroom: Tracey Gillies



[Watch on YouTube](#)

Reflection question: How could you adapt the flipped learning model for your classroom?

Videos are critical for the flipped classroom but can also be an important part of any blended learning model. It's never been easier to create videos using screencasting tools and other free programs. In the video below, Chrissy McLaughlin shares how and why she created videos for her math students.

Teachers Talk: Creating Videos to Teach and Review (4:45)



Creating Videos to Teach and Review

Chrissy McLaughlin
~ Elementary Education Teacher


Online Integration

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Reflection question: How could videos help you to better use the in-person time that you have with students?

In the video below, Dr. Chawana Chambers shares some insight on how to decide which learning model is right for your classroom or school. She stresses the importance of selecting a model with equity in mind.

Administrator Advice: Equity in Blended Learning (6:09)



Equity in Blended Learning

Dr. Chawanna Chambers
Elementary Education Teacher

Online Integration

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Reflection question: How do issues surrounding equity impact the blended learning model that you adopt?



6.3 Starting Small: Planning for Blended Lessons

It can be challenging to know where to start. In the video below, 5th grade teacher, Bridgette Joskow shares how focusing on one activity or using one tool at a time to elevate her student learning helped build her student's capacity and her student's confidence when introducing blended learning!

Teachers Talk: Think Big, Start Small



Think Big, Start Small

Bridgette Joskow
~ Elementary Education Teacher



Online Integration



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Reflection question: How can you make small changes that lead to a larger impact?

As you plan blended learning activities, it can be tempting to simply digitize what you've always done. While there can be some advantages to using technology in this way, often it's better to reimagine new possibilities that the technology affords, as Madiha Siddiqui describes in the video below.

Teachers Talk: Teaching Differently



Teaching Differently

Madiha Siddiqui
~ Elementary Education Teacher

Online Integration

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Reflection question: How can you teach differently to make the most of blended learning?

Now that we've thought big by reviewing some blended learning models, let's take our first small step and plan a blended learning activity by doing the following:

1. Identify the standard(s) and the learning objective(s) that you are interested in blending as well as the problems of practice that can arise when teaching them.
2. Think about activities, both in-person and online, that could support the student learning. The following questions can help:
 - How/when will students be using virtual tools vs. hands-on tools?
 - What classroom structure will this subject area have set up (small group, partner work, whole group or stations)?
 - When will students be interacting with each other and when will they be interacting with the teacher?
 - How can the online activities and the in-person activities connect?
 - Choose one of the activities you have considered and create a blended lesson.

Let's explore some examples for how this process might work. In the first example, we'll explore an example for grades K–2 and in the second example, we'll explore an example for grades 3–6. The teachers in these examples explore several activities that could be blended. You have a similar chart in your Blended Teaching Notebook.



Blended Teaching Workbook

Write a brief statement about why you want to blend your classroom. Which purposes and outcomes are you most interested in for your blend? Access your Workbook [here](#). Make sure you save your copy where you can access it as you go through the EEd chapters.

Example #1: Planning for Online Integration in the Lower Elementary Classroom

A common problem of practice in the lower elementary classroom is that students require differentiated instruction and personalized attention from the teacher. Elementary teachers are well aware that time is critical throughout a school day and there never seems to be enough of it. Blended and online learning creates opportunities to use time in the best possible ways—working with small groups of students. For instance, elementary teachers commonly use a station rotation model to make the best use of their time with students. There isn't one correct way to set up stations, but one approach is to have three stations—a station where students can collaborate with partners, a station where students can receive individualized instruction from computer programs, and a station where teachers work with students.

Below is an example of how a 2nd grade teacher may plan a language arts block that allows opportunities to cross the curriculum with social studies standards through an approach called station rotation centers.

Content Area: 2nd grade Language Arts and Science

Learning Objective: Students will be able to identify key details that support the author's points and understand that living things are part of a system. Class Structure: station rotation centers:

1. Independent time—students work by themselves on an activity tailored to their personal needs.
2. Teacher time—students meet in a small group with the teacher for explicit teaching/guided reading groups.
3. Partner time—students work together with a partner on a skill/skills.

Student–Content Interactions

Independent Time

Online Activities:

1. Students read along with a video recording of the article by the teacher. Then, students use Jamboard (a sticky note tool) to share key details about the living things in the article. There will be a sentence frame provided for students. Students will add their sticky note to a created t-chart about the living thing their detail is about.
2. Students can view their classmates' details and use them to create complete thoughts.

In-person Activities: Students read a text, identifying key details about living things' roles in a system. Students write or draw details about the living things mentioned on a graphic organizer, each living thing having its own section.

Connection: Both activities provide students with the opportunity to gain knowledge about living things, whether they are reading it themselves or using the aid from the teacher created video. Later, students will be able to take their details from their graphic organizer or from Jamboard to choose one of the living things from the article to write 3–5 sentences that support how a living thing is part of a system.

Student–Student Interactions

Partner Time

Online Activities:

Student–Student Interactions

Partner Time

1. Students can view other students' details on the Jamboard under each living thing. Students can draw a heart next to the sticky notes that they agree with.
2. Students will identify which living thing they are choosing as their main topic using a second slide on Jamboard and will see which students they can collaborate with.
3. Partner pairs can explore together compiled resources to further their learning on the main topic. (The teacher provides other resources about living things.)

In-person Activities:

1. Students meet in person in their living things group, discuss the key details from the article, and decide which details they will use in their sentences.
2. Students will also be provided books and other articles to explore to deepen their knowledge about living things to be used in their sentences.

Connection: The work the students do on jamboard and with their partner will prepare them for a productive in-person group discussion about the key details and for being able to plan an outline for their detailed sentences.

Student–Teacher Interactions

Teacher Time

Online Activities:

1. The teacher will leave feedback on the Jamboard slides and will provide students with follow-up questions to further their thinking about living things.

In-person Activities:

1. The teacher will meet for a set amount of time with each group of living things to discuss details with students and provide guidance in taking their thoughts into creating complete sentences.

Connection: The teacher will respond online to the Jamboards, asking a question that can cause the student to think more deeply about the living thing or consider another piece of evidence. They will use what they learned from their Jamboards and discussion board to guide their in-person meeting and to later give feedback in small groups.

Example #2: Planning for Online Integration in the Upper Elementary Classroom

Content Area: 5th Grade Language Arts and Science

Learning Objective: Students will be able to identify cause and effect text structures in narrative nonfiction to create their own narrative nonfiction of an ocean organism interacting with the living and nonliving parts of its ecosystem.

Class structure: Whole group reading with station rotation.

Stations: Small group reading, independent reading, research/planning (writing)

Student–Content Interactions

Online Activities:

Student–Content Interactions

1. Students will post in a padlet about an ocean organism they hope to research and write about.
2. The student will use resources compiled in a padlet by their teacher, as well as additional sources to begin to research their ocean organism.
3. The student will summarize their research into a table in google docs and record the resource used to find the summarized information.

In-person Activities:

1. Students read a text of their choice during independent reading and record examples of cause and effect in their reading journal.
2. Students explore books that relate to the ocean in search for material connected to their area of research
3. Students read a nonfiction text for fluency and accuracy and highlight examples of cause and effect in each paragraph.

Connection: Students will be planning and researching organisms in the ocean, while also learning about cause and effect in nonfiction. This will allow students to write their own narrative nonfiction about the role their ocean organism has in the ecosystem it lives in and how an ecosystem relies on all of its members (living and nonliving) to thrive.

Student–Student Interactions

Online Activities:

1. Students share resources they find along the way as they do their own research by commenting on each other's posts on Padlet.
2. Students will collaborate on a google document to compile and cross check research to create a script for a podcast/video they will create about their organisms.
3. Students will share the notes from independent research to others they are working on to ensure everyone has access to the various information.
4. At the end of the project, students will listen to and watch each other's projects and leave comments, feedback, and connections.

In-person Activities:

1. Students will discuss as a whole class their findings about the animals in the ocean to create an in person diagram about ocean ecosystems.
2. Students of similar organisms/ecosystems will meet in person to cross check research and determine a narrative nonfiction focus for their projects. Students may wish to work independently after discussing their ideas with others, or they may choose to team up with each other to create a multi narrative video/podcast. When meeting, students will diagram different cause and effect relationships that will be included in their project.
3. During small group reading, students will discuss understandings and thoughts about the articles they read as well as observations made about text structures (ie: cause and effect, sequencing, text features).

Connection: The work students do on the Padlet will support the work of their classmates, as well as allow students to be able to begin identifying members of the class focusing on similar organisms/ecosystems. In person students will be able to come up with a game plan for their projects and use Google Docs to be able to work simultaneously on the same project. Google Docs also allows the teacher to be able to keep tabs on student's work and leave feedback and suggestions. If students chooses to work alone, they can use the Padlet to identify students who they can get feedback from and cross check research with based on the ocean organisms/ecosystem they are researching. The small reading/writing groups during language arts stations will

Student–Student Interactions

provide students a strong understanding of an ecosystem as a whole as well as allow them to explore various types of text structures which they will use to structure the script of their podcast or video.

Student–Instructor Interactions

Online Activities:

1. The teacher will leave feedback and prompt questions on the Google Doc students are using to plan their project, focusing on interactions of organisms and other items in the ecosystem.
2. The teacher will post research material on the Padlet for students struggling with finding quality/credible information.
3. The teacher will leave audio feedback to students on their final projects.

In-person Activities:

1. The teacher will meet with students in small groups to focus on writing and reading strategies during station rotation. Reading and writing will be focused on expository and narrative nonfiction related to the ocean.
2. The teacher will hold “office hours” where students can sign up for a conference with the teacher for guidance, feedback, and clarification.

Connection: The teacher will provide background information while teaching reading and writing skills in small groups that students will then take and apply to their projects. The teacher will also leave feedback and prompt questions to guide students to think about the importance of ocean organisms and the interactions those organisms have with their environment.



6.4 Deciding What To Do In-person in an Elementary Classroom

Teachers Talk: How I Think Through My Day (3:27)



How I Think Through My Day

Bridgette Joskow
~ Elementary Education Teacher



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Reflection Questions: How do you think about your day when planning lessons? How can you incorporate blended teaching into your planning?

Blended learning is the *strategic* combination of online and in-person modalities. But how do teachers decide which activities to do online and which to do in person?

One way to begin answering the question of what can be done most effectively in person is to look at your strengths as a teacher, the needs of your students, and the types of activities that lend themselves to the best use of the in-person and online spaces. Know yourself, your students, and your subject matter well enough to determine what you want to preserve for the in-person space and what can be moved to the online setting.

Once you know how you can best use the in-person space, you can begin to explore ways to use the online space. Answers to the following questions may help you decide:

- Can I put some instruction online so I have more time to work with students individually or in small groups?
- Can putting an activity online increase student participation?
- Can I use the online space to allow my students to personalize the pace, path, time, place, or goals of their learning?
- How can I use the online space to target individual learning needs?
- Can I use the online space to help students increase ownership of their learning?
- Can I use the online space to give my students access to materials they wouldn't otherwise be able to have?
- Can I use the online space to teach the same concept in different ways, so learners will have more than one option in their learning?
- Can I use the online space to allow for greater learner-learner interaction and collaboration?
- Can I use the online space to adapt or differentiate materials to meet different students' needs?
- Are there new ways I can use the in-person space when I put some of the instructions and activities online?

As you begin to plan online learning activities it's helpful to create an online platform. Many school districts provide teachers with a learning management system (LMS). If that's not the case for you, there are several free tools that you can use to organize learning activities and directions. For instance, in the following videos Chrissy McLaughlin shares how she uses free Google tools to create rich and interactive online learning platforms.

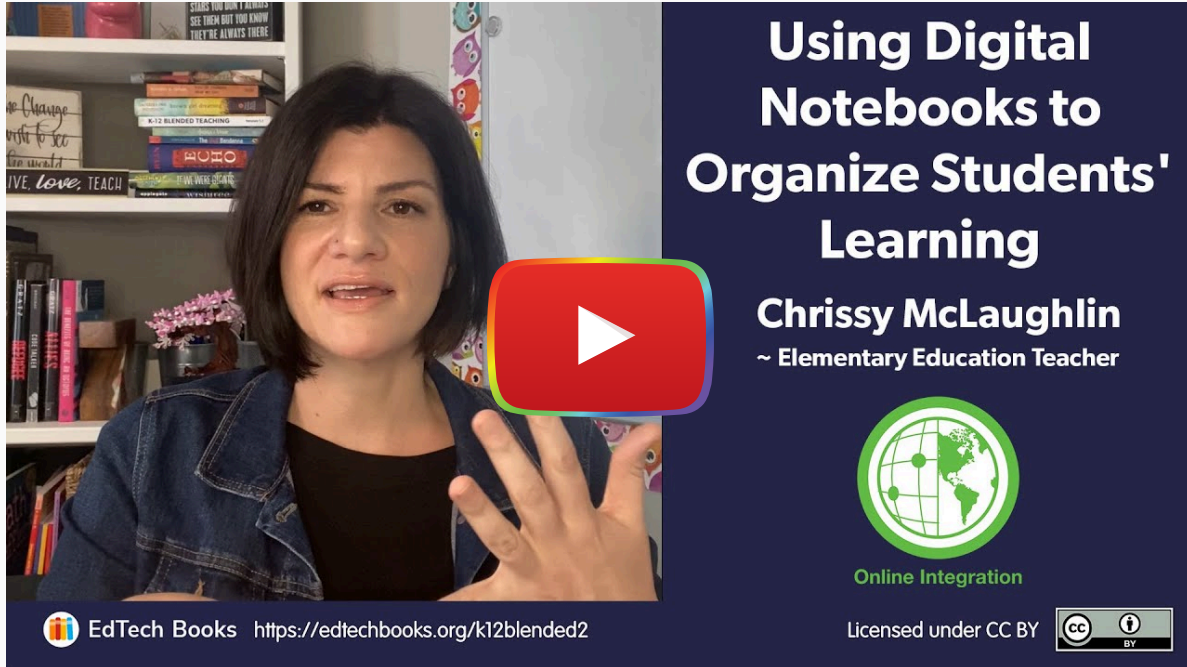
Teachers Talk: Establishing Classroom Routines (3:55)



[Watch on YouTube](https://www.youtube.com/watch?v=k12blended2)

Reflection Question: How can you help your students to manage their passwords?

Teacher Talk: Using Digital Notebooks to Organize Students' Learning (1:51)



Using Digital Notebooks to Organize Students' Learning

Chrissy McLaughlin
~ Elementary Education Teacher

Online Integration

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Reflection Question: How could you integrate digital notebooks into your students' learning?



6.5 Planning Blended Routines and Behaviors

Establishing routines in a blended classroom is crucial. Routines will help students to

- understand when and how to move around the classroom,
- how to access an LMS or other online programs,
- how to log in and out,
- where and how to store hardware,
- how to communicate civilly and respectfully,
- how to turn in assignments is essential to creating a usable blend.

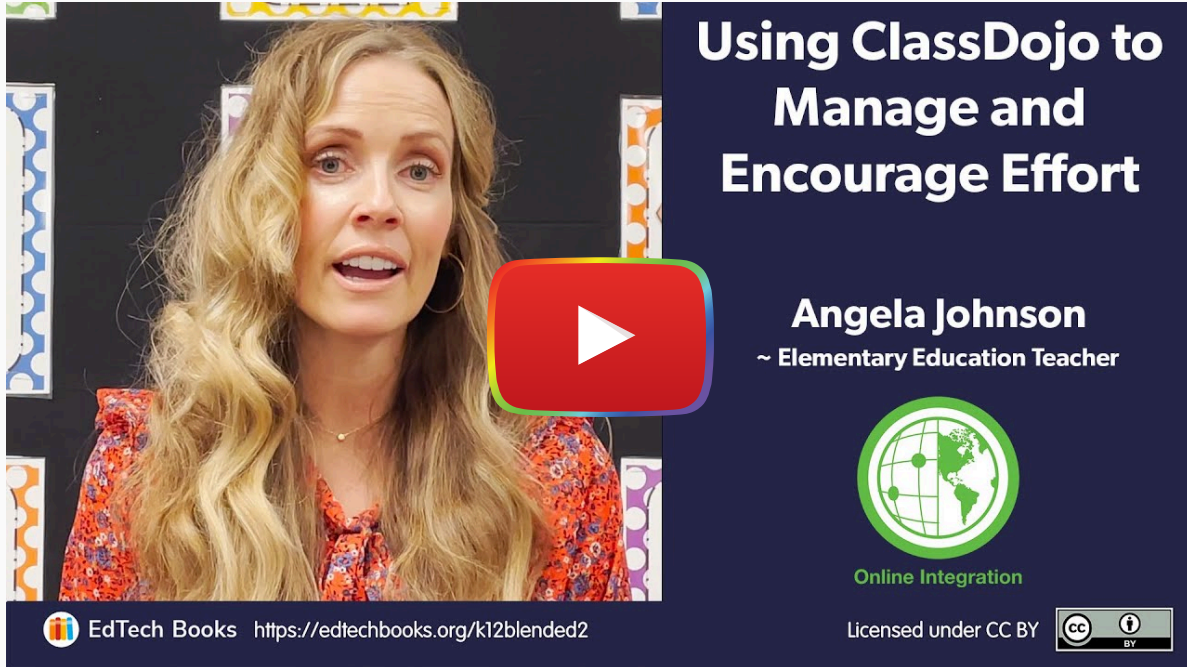
In addition, making plans for how to manage off-task behavior can prepare you for situations that are sure to arise.

Process for Implementing Routines in a Blended Classroom:

1. Decide specifically the kinds of behavior and routines you want to put in place.
2. Spend the first two or three weeks really drilling and practicing those routines.
3. Set clear expectations.
4. Decide what you will do to help students who have a difficult time meeting the expectations. How will you respond to them?
5. Evaluate your plan and make adjustments as needed.

One virtual tool that many elementary teachers know and love is ClassDojo. Check out the video below to learn how Class Dojo has helped Angela Johnson manage and encourage effort in her classroom!

Teachers Talk: Using ClassDojo to Manage and Encourage Effort (3:18)



Using ClassDojo to Manage and Encourage Effort

Angela Johnson
~ Elementary Education Teacher

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Reflection Question: How can you use technology to track and encourage student effort?

In Table 1 below your mentor teachers share tips they have learned and implemented that have helped them establish routines to manage their classrooms. As you read through them, think of your classroom. Are any of these tips appropriate for your setting? What ideas come to mind of ways you can effectively manage your own classroom?

Table 1

Blended Learning Routines

Blended Learning Routines—Teacher Tips

Student Movement	<ul style="list-style-type: none"> • Will you have activities that require the movement of students (such as in a station or lab rotation). <ul style="list-style-type: none"> ◦ Will students be moving all at the same time? ◦ At different times? ◦ Plan an efficient way to facilitate those movements. ◦ What is the expected voice level during this time? • How will students know what they should be doing? <ul style="list-style-type: none"> ◦ Is there a rotation schedule posted on the board? ◦ Are there stations labeled around the room? ◦ Is there a choice board or station options available for students? ◦ Do students need to sign up for activities or can they choose at their own accord? • Be very clear. Make a few rules but enforce them well. Model and practice these expectations throughout the school year.
------------------	---

Blended Learning Routines—Teacher Tips

Hardware Management	<ul style="list-style-type: none"> • Have designated charging times to ensure that technology is charged when it is needing to be used. • Set up designated charging stations where students can work with their computers plugged in if needed. • Keep Chromebooks or other hardware charged. (If devices are kept in the classroom, students don't take them home.) • Establish a routine for making sure computers are plugged into the right charging station. (Label chargers with student names or numbers so that students know where they should plug them in.) • Create a classroom job of "hardware manager." • Assign specific areas for where computers are used in the classroom. • Teach how to hold and carry devices; practice.
Software Management	<ul style="list-style-type: none"> • Teach how to turn on the computer, log in, and access the internet. For younger students, this may take LOTS of practice. Remember, one step at a time! • Practice using the LMS, opening it, finding assignments, checking grades, submitting assignments, etc. You may consider having a lesson for the whole class to bookmark the important sites for easy access. • If you have specific formats you want students to use when submitting assignments, teach them what they are. This can be taught with non-academic mini-lessons. • Create checklists and anchor charts to hang around the room for reminders. • Teach how to download, upload, and organize files. • Have the students practice everything you teach. Model and practice these things more than one time. • With lower elementary, begin implementing one tech tool at a time to allow students the time to explore and get a strong understanding.
Student Questions	<ul style="list-style-type: none"> • Teach them where to find answers before they ask you. Anchor charts visible in the classroom are a great way to model and can be a reference for the school year. • Create a system for students to ask their questions without disrupting class time. They could use sticky notes, private message in LMS, or for older students email. • Establish "expert" students that other students can turn to for help. • Create instructional videos or review pages students can access when they have common questions.
Classroom Configuration	<ul style="list-style-type: none"> • Decide what kinds of activities you do in your classroom. Are there classroom configurations that will support those activities? For example, <ul style="list-style-type: none"> ◦ Create a comfortable reading space. ◦ Create a space for collaboration, where students can talk together. ◦ Create a quiet space for writing or other thoughtful activities. ◦ Do you have fewer than 1-to-1 devices? If so, create a space for working on computers.

Blended Learning Routines—Teacher Tips

Off-task Behavior	<ul style="list-style-type: none">• Use software that allows you to monitor what is on the screen of each student.• Teach them to monitor themselves.• Sometimes if I have problems with students straying away from what we're doing on their computers, we shut down the computers and use paper again for a day.• Even good students can get off task. I try to always walk around the classroom, both to be available for help and to give quiet reminders to stay on task.• When students are on the computer, I like to create the expectation that screens can be seen by me around the room. That means no one is leaning up against the wall where only they can see their screen.• Utilize your LMS or other software to keep track of online behavior.• I have a table by my desk. If there is a student who is really having a difficult time staying on task, I place him or her on that table away from the other students and monitor that student more closely.• Create expectations and consequences as a whole class. This will ensure students understand the rules and they find the consequences fair. (Make sure these expectations are posted for reference.)• Praise students as a whole or private message throughout the school day for good computer behavior.
Other	<ul style="list-style-type: none">• Help students develop time management skills, so that they use their time as efficiently as possible.

Elementary teachers say they typically spend four to six weeks at the beginning of the year establishing routines and expectations and teaching students how to use the technology. They also do not roll out all expectations/routines at once. Think about what routines are an absolute must during the first week of school and which expectations can come later. Sometimes expectations are needed earlier than usual. Therefore, you can implement a routine through an authentic teachable moment! Routines should be revisited and modeled both by the teacher and students throughout the year, especially after long school breaks! Yes, setting up expectations in an explicit and meaningful way to manage your classroom. You can feel like it takes a long time, but it will pay off to ensure a smooth running classroom that will lead to increased opportunities for interaction and personalization in the blended classroom.

Lastly, try your best to be consistent in your implementation of expectations and routines. If something is not working, ask your students for feedback! Don't be afraid to say, "Does this routine work for you? Why or why not? How can we make this class run more smoothly?" If something is not working for you, it most likely isn't working for your students.

Below are some video tips from kindergarten teacher Angela Johnson and 5th grade teacher Chrissy McLaughlin on how they set learning expectations in their classrooms!

Why I Blend: Managing Student Passwords (1:49)



Managing Student Passwords

Angela Johnson

~ Elementary Education Teacher



Online Integration

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Reflection Question: Can you help your students to manage their passwords?

Teachers Talk: Setting Expectations for iPads (2:05)



Setting Expectations for iPads

Angela Johnson
~ Elementary Education Teacher



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Reflection Question: How can you set expectations for technology use?

Teachers Talk: Establishing Classroom Routines



Establishing Classroom Routines

Chrissy McLaughlin

~ Elementary Education Teacher



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Reflection Question: How would you need to adjust your classroom routines for the blended classroom?

Teachers Talk: Managing the Technology (4:29)



Managing the Technology

Madiha Siddiqui
~ Elementary Education Teacher



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Reflection Questions: What are some of the challenges you have in managing technology? How can routines help?

Teachers Talk: Grounding Students in Digital Citizenship (1:55)



Grounding Students in Digital Citizenship

Madiha Siddiqui
~ Elementary Education Teacher



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Reflection Question: How do you help your students to develop digital citizenship skills?

Teachers Talk: Managing Technology in the Classroom (2:40)



Managing Technology in the Classroom

Liliana Daza Carrizosa
Elementary Education Teacher

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Reflection Question: What might you need to teach your students about using technology?

In the next chapter you will begin to explore online interactions in your blended teaching.

Previous Citation(s)

Joskow, B., Borup, J., Chambers, C., & Sandrowicz, N. (in progress). EEd: Online Integration & Management. In C. R. Graham, J. Borup, M. A. Jensen, K. T. Arnesen, & C. R. Short (Eds.), *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines*, 2. EdTech Books. <https://edtechbooks.org/-aqv/>



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ElEd: Online Interaction

Bridgette Joskow, Jered Borup, Chawanna Bethany Chambers, & Nicole Sandrowicz



7.1 Online Interaction in the Elementary Classroom

Review foundational knowledge about [Online Interactions](#) in K-12 Blended Teaching (Volume 1).

All elementary school classrooms require interactions with and between students and teachers. As elementary teachers, we are constantly teaching and modeling communication skills. Therefore, it is imperative that opportunities for interaction are meaningfully planned throughout the school day. Both in-person and online interactions provide students with opportunities to share and support their ideas, give and receive feedback, and present both written and spoken thoughts, opinions, and positions. Additionally, in a world where technology, social media, and text-messaging is ever growing, facilitating and modeling in-person interactions/communication is not enough. Creating a blended classroom community allows us to teach and support valuable, healthy, and appropriate online interactions and digital citizenship skills that will help our students throughout their lives.

Thinking back to the [PICRAT model in Chapter 3](#), creating a blended classroom allows technology to amplify and transform student learning interactions and activities in ways that can result in increased content knowledge and skills. With that said, a blended classroom helps the learning community to interact safely with each other and with others outside of the typical classroom/school walls. The videos below share how two teachers are using online communication to think outside the box!

Teachers Talk: Think Out of the Box (2:53)



Think Out of the Box

Bridgette Joskow

Elementary Education Teacher



Online Interaction

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Reflection Question: How can technology help you invite the world into your classroom?

Teachers Talk: Developing a Community (1:11)



Developing a Community

Chrissy McLaughlin
~ Elementary Education Teacher

Online Interaction

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Reflection Question: How might you think outside of the box to integrate online learning interactions into your students' learning activities?

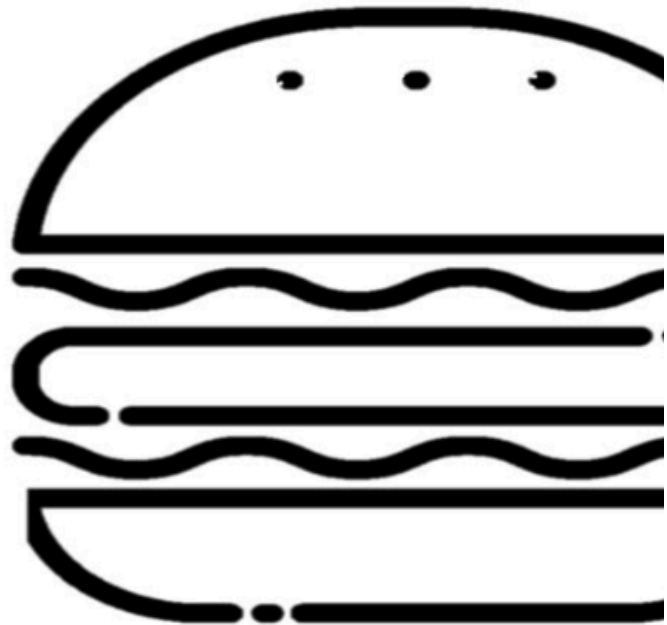
As a quick reminder, blended learning requires a balanced blend of in-person and online interactions. In-person interactions can be great for rapid back-and-forth exchanges that result in a type of energy or even excitement. However, when only one person can talk at a time, students may wait a long time to be called on and may not get a chance to comment at all. In contrast, online interactions can be asynchronous so all students have equal opportunity to participate. However, students may have to wait a while for a response. By blending online and in-person interactions, teachers can avoid some of these disadvantages while also combining the best of both worlds. For instance, Neisha Coutlee, a fifth-grade teacher in Utah shared with us that she uses what she called the “Sandwich Method” to blend her students’ interactions. Using the sandwich method, Neisha would start an activity in person, students would then engage in an activity online, then the students would come together again in person to wrap up the activity. The process can occur all in an hour lesson or be extended across days. Alternatively, some activities could start and end online with an in-person activity in the middle. The Sandwich Method and others like it, are simple ways that teachers can blend in-person and online interactions.

THE SANDWICH METHOD

IN PERSON

ONLINE

IN PERSON



There are also many technologies that can be used to facilitate online interactions. Below is a table that breaks down commonly used tools, each with an explanation and example of how each tool can be used to support that specific online interaction. It is recommended that you become proficient with one technology then branch out to another one. Remember, technologies are like a box of chocolates—don't try too many at once.

Table 1

Interaction Tools

Tech Tool	Overview of Tool	Example(s)
Discussion Board	Discussion board tools are usually part of the Learning Management System (LMS) that schools commonly provide teachers. A discussion board allows teachers and students to engage in a back-and-forth, threaded conversation. Discussion board activities can also be tied right to a grade book. Depending on the LMS being used, students can contribute with text, audio and/or video responses. Teachers can also turn off the ability for students to see their peers' comments, allowing them to use a discussion board as a quick and effective one-on-one check. **Note that text discussion boards are more commonly used in upper elementary.	After reading <i>Tuck Everlasting</i> , Bridgette Joskow's 5th grade students answered the questions "Do you think immortality is a blessing or a curse? What would you do?" Students commented, connected, and reflected on the responses of their classmates. Following, Brigette wrapped up the discussion in-person. The activity was conducted in Google Classroom, a free LMS.
Padlet	Padlet is an online bulletin board where students can post and reply to comments using text, images,	Students share their favorite books on a class Padlet, including a summary of the

Tech Tool	Overview of Tool	Example(s)
	<p>audio, drawings, and video. Using Padlet's templates, students can also create timelines, storyboards, and collages individually or collaboratively. Something to note: The basic (free) version allows the creation of 3 padlets. However, you can delete and remake these 3 padlets as often as you'd like. Padlet also has some accessibility limitations but it's an area that they are working on: https://padlet.com/about/accessibility</p>	<p>book and why they like it. Students then connect with each other by commenting on books that they are interested in and want to know more about. The teacher can also leave video, audio, or written replies to students' posts to provide feedback and guide students' efforts and thinking. These interactions may start virtually but continue in person.</p>
Flipgrid	<p>Instead of using a text-based discussion, Flipgrid allows students to post and respond with video. Flipgrid also allows students and teachers to create and share screencast videos and audio-only comments. By communicating in video and audio recordings, students are able to express themselves in ways not possible in text. Being able to see and hear each other can also increase the sense of nearness and community in the discussion.</p>	<p>At the start of the year, kindergarteners draw a picture of their family using paper and crayons. Using Flipgrid, they then show and describe their drawing. In another example, a fourth-grade teacher creates a Flipgrid for students to share their poetry that includes examples of onomatopoeia. The video allows students to hear the onomatopoeia and reply with feedback, using an onomatopoeia of their own. Following, the teacher can lead an in-person wrap up of the activity. Here is a fun anchor chart created by Brigitte Joskow that she uses to guide students into giving feedback on Flipgrid.</p>
<p>Google Docs</p>	<p>Google Docs is a collaborative word processor, where students can work together to write and receive feedback.</p>	<p>Students work independently on a short story. As they are working they highlight a section they would like to improve. Using suggestion mode, their writing partner leaves comments and feedback to improve the section. Writing partners then meet in-person to share more summative feedback and brainstorm ways to improve their story.</p>
<p>Google Slides</p>	<p>Similar to Google Docs, Google Slides allows students to individually or collaboratively create presentation slides. Google Slides is also increasingly used to generate quick ideas and brainstorming, with each student or group of students having one slide.</p>	<p>Students work together to create a presentation about an ecosystem. Using the commenting feature and the speaker notes section, students are able to work from across the room during quiet work time or even while at home and still bounce ideas off of each other. The teacher can also see students' work in real time and provide encouragement and feedback when helpful. Dr. Theresa Wills at George Mason University has created a lot of free Google Slides templates that you can use for interactive activities.</p>
<p>Jamboard</p>	<p>Part of the Google Suite, Jamboard is a virtual whiteboard that allows students to work</p>	<p>Math partners can interact on different tasks or problems by using the whiteboard to solve and share their thinking. Or, use this</p>

Tech Tool	Overview of Tool	Example(s)
	simultaneously on the same document. Students and teachers can draw, type, and add sticky notes.	tool for a gallery walk where students can post sticky notes on student examples as feedback, praise, or additional ideas.
Google Drawings	Similar to jamboard, Google Drawings is a collaborative tool that provides a blank slate for students to draw and create their own graphics. These graphics save as an image file and can be added to a Google Document or Google Slide. Students are able to collaborate and create at the same time. Like other Google products, students are able to leave comments and notify collaborators directly on the document.	Following an in-person lesson, students collaborate to create a map to represent the geography of a studied civilization. They leave comments and assignments on various parts of the project to share with others what they are working on and what they need support with. After groups make their own maps, groups swap and leave feedback highlighting similar features of the different civilizations and asking questions about the civilization's goals or focus.
VoiceThread	VoiceThread is a video/audio tool that allows students and teachers to create media slide decks that they can narrate using video, audio, or text comments. Viewers can also add their own comments based on the settings that the creator set.	Students create presentations depicting an animal and the role it plays in its ecosystem. The VoiceThreads are then shared with the class and peers leave comments. Students respond and reply to the feedback and comments left by their peers. Additional examples can be found for each grade level in VoiceThread's library .
Peardeck or Nearpod	Peardeck and Nearpod are tools that turn slides into interactive assignments. Using the teacher dashboard you can see student responses. This tool can be used in student-paced mode (allowing kids to work at their own pace) or in instructor-paced mode, which then is controlled by the teacher dashboard. The feedback option allows teachers to comment on student work, which then notifies the student. There are also a ton of premade templates ready to be used.	As a morning activity students enter the classroom and begin working on their morning peardeck. In this peardeck students share about what is filling and emptying their cup. They also create a drawing and complete a word search (all at their own pace). The teacher uses this as a form of attendance during the morning but also takes a moment to leave feedback and comment on student work making sure everyone is able to share how their morning is started.
Mote	A chrome extension that allows teachers and students to quickly add audio recordings to Google Documents and Google Classroom.	After reviewing student work, a teacher creates an audio comment directly on the Google assignment. By simply clicking the record button and talking, the teacher was able to provide more detailed and conversational feedback. In another example using a free template created by Esther Park, students can engage in a virtual tug of war where they place comments along the rope depending on how strongly they agree and disagree with a statement.



7.2 Student-Student Interactions



Student



Student-student or peer interactions can be powerful. Talking, discussing, reading, sharing, writing, revising, and creating are at the heart of the elementary classroom and require meaningful interactions. Students can also form a sense of classroom community by supporting one another, answering each others' questions, giving and taking feedback, explaining concepts, and counseling with each other. Technology can enhance these activities while also teaching healthy [digital citizenship skills](#). In the following video Alex Dilldine shares how she provides students with an online platform to discuss social and academic topics.

Teachers Talk: Leveraging the Power of Video Discussions (1:37)



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n 27, 2021

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Reflection Question: What are some of the topics that your students could discuss online?

Just like in-person discussions and interactions, online interactions can become stale if they do not include variety while also inviting students to think deeply and creatively. In the classroom it can feel impossible to call on every student and still get through your packed schedule. Online asynchronous communication tools allow all student voices to be heard. In the teacher talk below, Chrissy McLaughlin shares how she uses Flipgrid to hear from every student. One of her students also shares how she benefits from online communication.

Teachers Talk: Hearing Each Student Voice (2:02)



Hearing Each Student Voice

Chrissy McLaughlin
~ Elementary Education Teacher

Online Interaction

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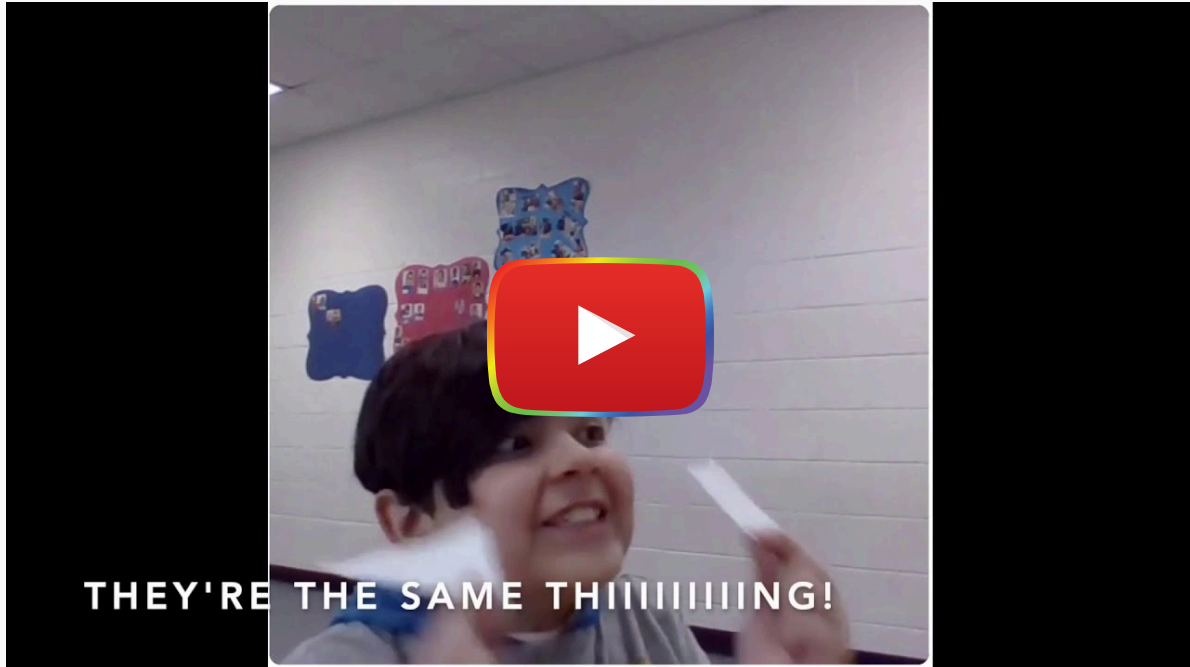
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[Watch on YouTube](#)

Reflection Question: How might your students benefit from communicating online?

When given the opportunity, students can be especially creative in their video comments. For instance, Chrissy McLaughlin had her math students create videos using key terms. In the following video, one student used the pause and record button to create a hilarious conversation, combining language arts and math in a unique way.

Teacher Example (1:28)



[Watch on YouTube](#)

Reflection question: How can a tool like Flipgrid help some of your students to better express themselves?

Introducing tools to students is great; however, teachers do need to facilitate interactions between students and provide scaffolds. For instance, elementary students need to learn how to effectively and respectfully provide feedback to each other. In the following videos, Chrissy McLaughlin and Madiha Siddiqui share why and how they facilitated student-student feedback online.

Teachers Talk: Facilitating Student-to-Student Feedback (2:14)



Facilitating Student-to-Student Feedback

Chrissy McLaughlin
~ Elementary Education Teacher



Online Interaction



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Reflection Question: What scaffolds can you provide to your students to facilitate their interactions and feedback?

While interaction is good, it's also important that students have opportunities to collaborate on projects. Online collaborative tools can make collaboration easier but sometimes no-tech options are best. In the following video, Madiha Siddiqui shares how she facilitates collaboration with and without technology.

Teachers Talk: Fostering Collaboration (1:15)



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Fostering Collaboration

Madiha Siddiqui
~ Elementary Education Teacher



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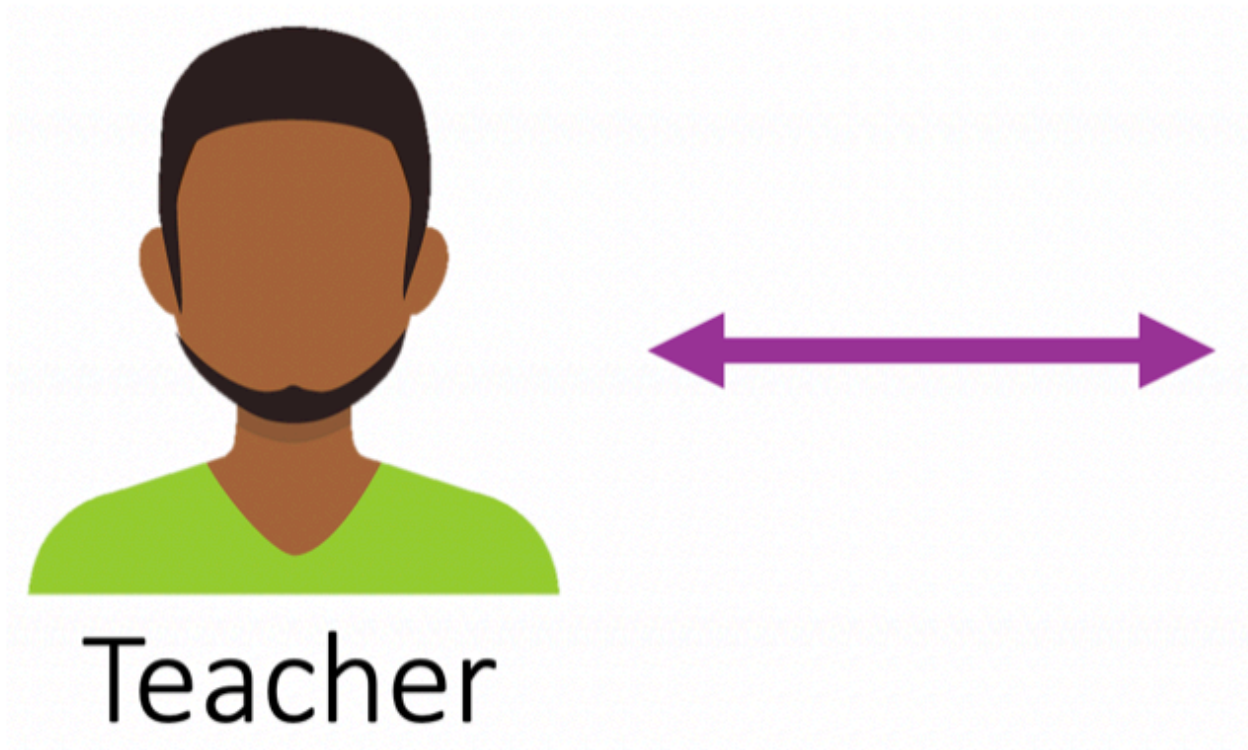


[Watch on YouTube](#)

Reflection Question: Which collaborative activities are best done online and which are best done without technology?



7.3 Student-Teacher Interaction



Experienced blended teachers often report that their interactions with students online have strengthened relationships and contributed to student growth. When a teacher interacts virtually with a student, they are modeling effective and valuable online relationships and communication. What are some ways teachers can foster these interactions? The following highlights some ways that teachers can foster these student-teacher interactions:

- **Participate in online discussion boards.** Share ideas, validate opinions, and monitor student thinking.
- **Provide feedback directly on assignments and in the LMS.** Feedback can be written, video, or audio. Video and audio feedback can add additional personal connections.
- **Walk around the room.** When students are in your class but working online, it's a good opportunity to move around the room to answer questions and give verbal feedback.
- **Schedule one-on-one meetings with students.** These check-ins can provide good opportunities to discuss progress and provide feedback and encouragement.
- **Teach students the value of email.** Encourage students to email you with questions, concerns, or ideas.

Teacher feedback is especially helpful. There are lots of different ways to leave feedback for students online. Check out how 6th grade teacher Chrissy McLaughlin uses video to leave feedback and interact with students.

Teachers Talk: Providing Digital Feedback (3:07)



Providing Digital Feedback

Chrissy McLaughlin
~ Elementary Education Teacher



Online Interaction



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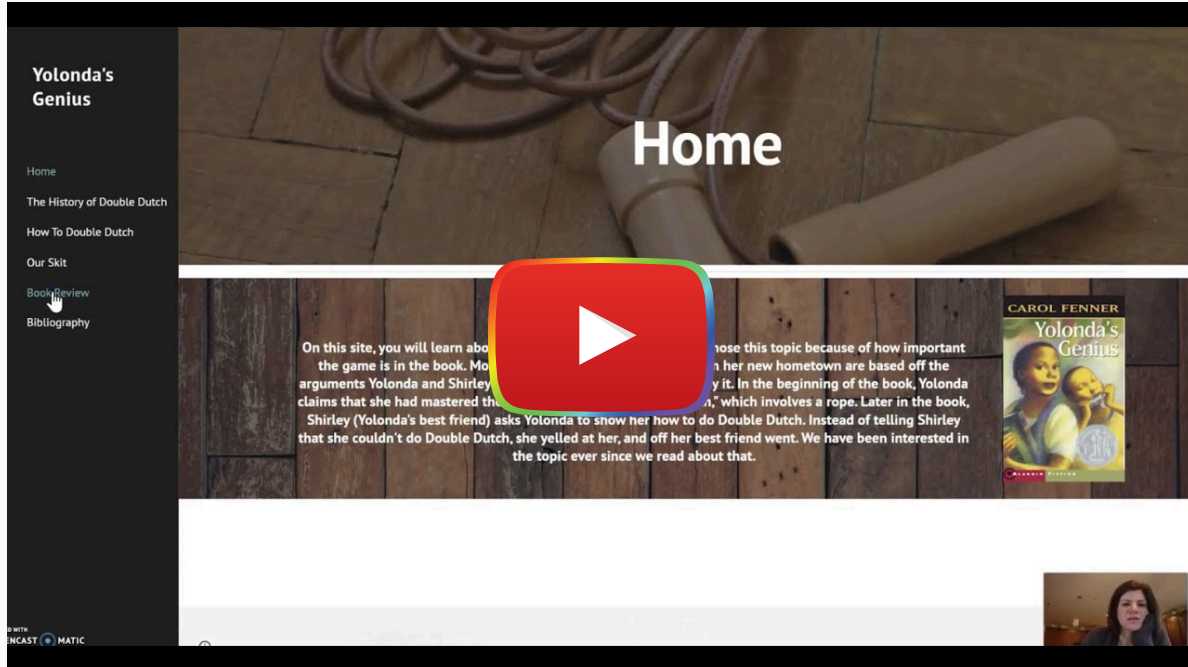


[Watch on YouTube](#)

Reflection Question: What type of feedback do you feel is best delivered in video and which is best delivered in text?

Now that we've heard Chrissy's rationales for providing video feedback, let's look at some examples. In the following example we see Chrissy providing feedback on a book club project where a small group of students collaborated to create a Google Site website highlighting various aspects of their book.

Teacher Example (1:11)

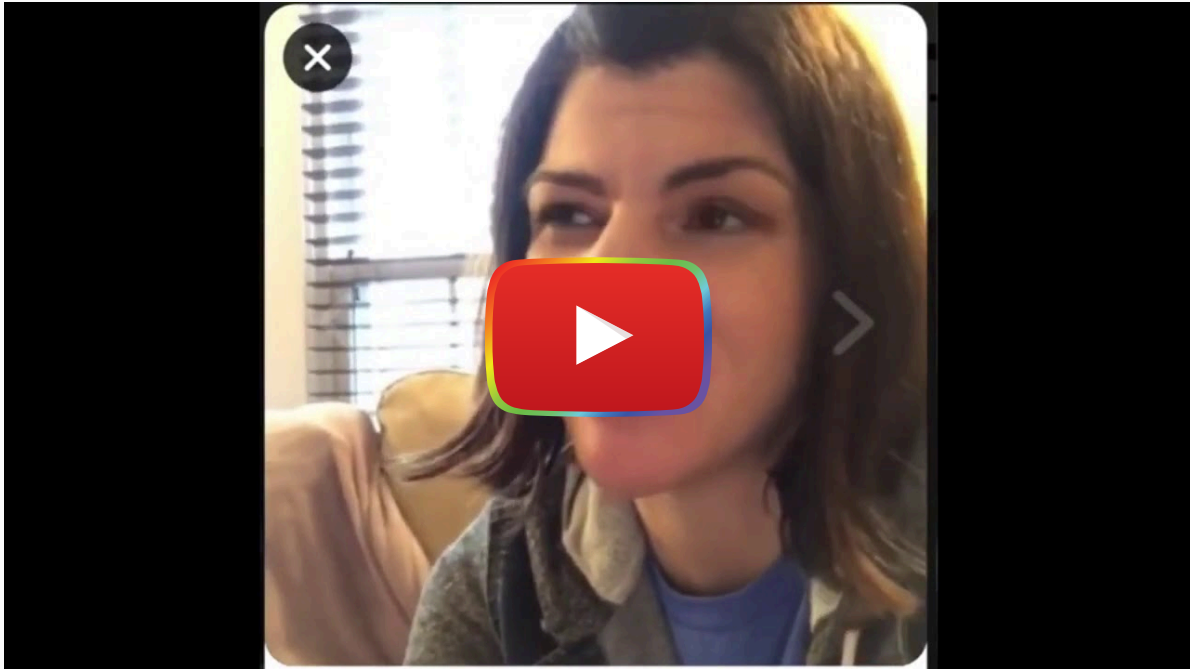


[Watch on YouTube](#)

Reflection Question: When do you think that providing video feedback would be most effective?

Formative feedback can also be given just in time to guide the learning activity. In the following example, Chrissy noticed that students were mispronouncing the term *finite* so she jumped on and made a quick video to correct the mistake. While her primary purpose was to correct students' mistakes, notice how she took time to build relationships with students and provide encouragement.

Teacher Example (:40)



[Watch on YouTube](#)

Reflection Question: When do you think that providing video feedback would be most effective?



7.4 Student-Community Interactions and Beyond



Student

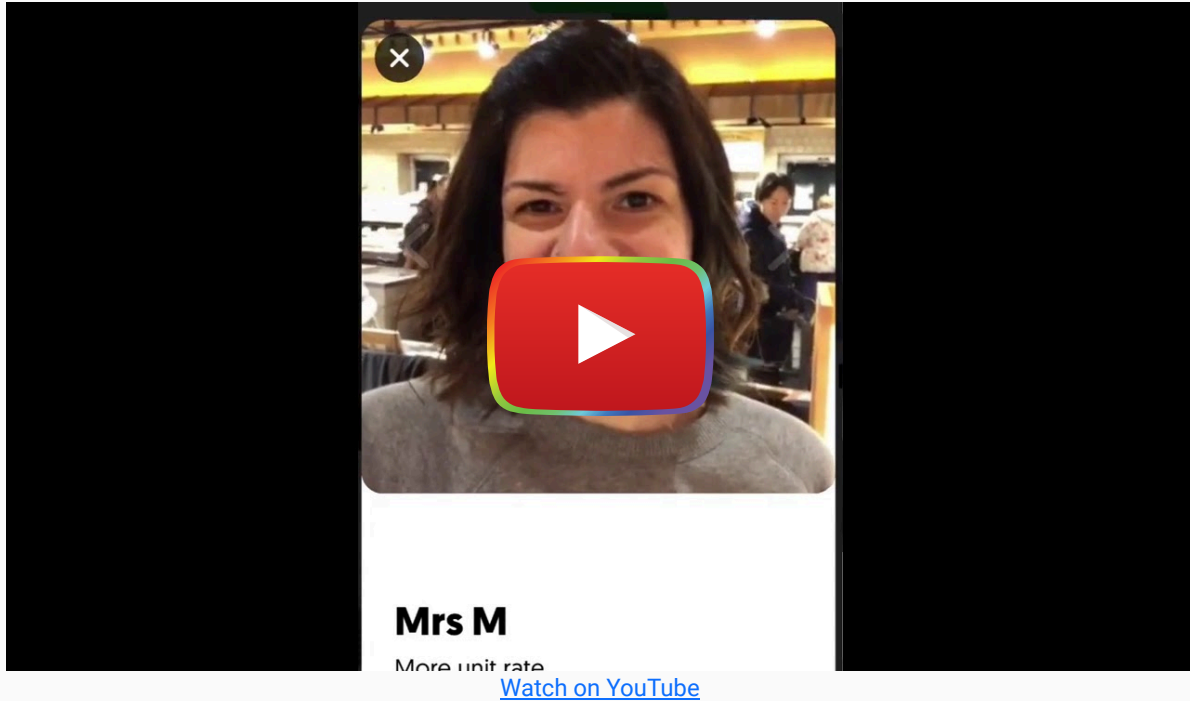


Commun

One of the benefits to being in an elementary classroom is the ability to bring members of the community into the classroom and students into the community. An easy place to start is to show specific connections between what students are learning and their local community. For instance, when Chrissy McLaughlin was teaching unit rates, she

started to see examples everywhere in her day-to-day life that she wanted to share with her students. In the following video, we see Chrissy sharing different unit rates that she saw while shopping with her husband. As you watch the video, notice how natural Chrissy is speaking in the video. When making videos, it can be frustrating when teachers want it to be perfect to the point that they re-record the video following minor speaking errors. Don't be perfect—be yourself! By recording the video in her real world, students get to see their teacher in a new light, helping to form new connections that can improve the overall classroom community.

Teacher Example (1:28)



Reflection question: How can you use video to bring the world into your classroom?

Similarly, when Crystal Dunn was teaching her students about the different orders of Greek Columns, she made a video showing examples in the students' community. She also included her kids in the video, helping her students to see her as a "real person."

Teacher Example (4:52)



[Watch on YouTube](#)

Reflection question: How can you use video to bring the world into your classroom?

Online communication technologies can also allow students to connect with communities far beyond their own. For instance, teachers can take their students on a virtual African safari with <https://wildearth.tv/> and even submit live questions for the safari guides to answer. Katie Talbot took her 4th-grade students on a safari and shared, “My students were excited that they actually got to ask the guides questions and hear them say our school’s name. Students were also thrilled to be ‘up close and personal’ with elephants, lions, giraffes, zebras, hippos, and a variety of other wildlife.” In fact, Katie also prepared students for the experience by using a Padlet to help brainstorm and organize their questions for the guides.

Mystery Skype is a collaborative, critical thinking, authentic activity where two classrooms connect using Skype without knowing the location of the other. The classes then use yes/no questions to try and discover the location of the other class, as Lisa Mims explains in the following video.

Teachers Talk: Mystery Skype with Lisa Mims (5:59)



[Watch on YouTube](#)

Reflection question: How can you use video to connect with other classes?

GridPals is a modern take on penpals, where students send video recordings on Flipgrid rather than writing letters using pen and paper. Flipgrid has made it fairly easy to connect with other classrooms around the globe. Once you register your class (<https://info.flipgrid.com/blog/tips/gridpals.html>), you are provided with an interactive map of other elementary classrooms who are also seeking to connect with others. However, similar activities can be organized and done on lots of different tools.



Find a GridPal

There are 1,621 GridPal educators on the map. Use the filters to find a match.

Community

Education - Elementary (ages)  

Subject

Elementary (ages 5-10)  

 Search GridPals

Connecting to community members directly can also create an authentic audience for students to share their learning, ask questions about a particular field, and get feedback. Getting to know the interests and expertise of community members is an important first step. Again, not all members have the ability to stop what they are doing to visit the classroom and have an assembly. Ask that community member if they can record a video talking to the class, or gather questions on a Google Document and send them to that person for further information. For example, Halerin Ferrier found that her 4th grade students weren't connecting emotionally to the history curriculum. In one unit on WWII Japanese internment camps, students wrote letters as if they were living in the internment camp and drew images to represent their emotions. Then the students read and recorded their letters on VoiceThread slides showing their emotion images. Halerin then shared the VoiceThread with actual survivors of the camps and asked them to reply with their own recorded messages. Halerin remembered, "We were so excited... To see them connect and shine was all a teacher could hope for!!!!"

Teacher Example (1:28)



[Watch on YouTube](#)

Reflection question: How can you use technology to allow for more opportunities for students to communicate with members of the community?

Live guest speakers can also be an amazing experience for students and gives them an opportunity to have more immediate back-and-forth exchanges. One small silver lining of the Covid-19 pandemic is that most people are now comfortable communicating using video conferencing tools such as Zoom, making virtual presentations a cinch. In the video below hear how a fourth-grade teacher, Ms. Fox, facilitates guest speakers.

Teachers Talk: Connecting with Virtual Speakers (1:53)



Connecting with Virtual Guest Speakers

Emily Fox

Elementary Education Teacher



Online Interaction



EdTech Books <https://edtechbooks.org/k12blended2>

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[Watch on YouTube](#)

Reflection Question: Who might you invite into your classroom to expand your students' understanding?

Another good place to start is to make connections within your personal network and your students' families. As elementary teachers, our students' family members have a diverse set of backgrounds, interests, and occupations. Family members of students often would love to speak to their student's class but don't have full availability to come into the classroom and be physically present. Do you need some language to send home to parents about building these community interactions? Bridgette Joskow created this [Google Form](#) and a [print-out](#) to send out to families.

In the teacher talk video below, a 5th grade teacher, Bridgette Joskow, shares how she brings the community into her classroom and the impact it has on her students' learning.

Teachers Talk: Bring the Community In (4:05)



EdTech Books <https://edtechbooks.org/k12blended2>

Bring the Community In

Bridgette Joskow

Elementary Education Teacher



Online Interaction

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[Watch on YouTube](#)

Reflection Question: Who do you know who would make a great virtual guest speaker? How can you better identify possible guest speakers from within your students' families?

The online space significantly increases opportunities for online interactions in and out of the class community. Giving students opportunities to connect in meaningful ways not only brings the class community together, but also teaches students important communication skills and gives an authentic reason for learning. You don't have to start all at once. Just choose one interaction that looks promising to you—and begin.

In the next chapter you will begin to explore data practices in your blended teaching.

Previous Citation(s)

Joskow, B., Borup, J., Chambers, C., & Sandrowicz, N. (in progress). EIE: Online Interaction. In C. R. Graham, J. Borup, M. A. Jensen, K. T. Arnesen, & C. R. Short (Eds.), *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines*, 2. EdTech Books. <https://edtechbooks.org/-NCXq>



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EEd: Data Practices

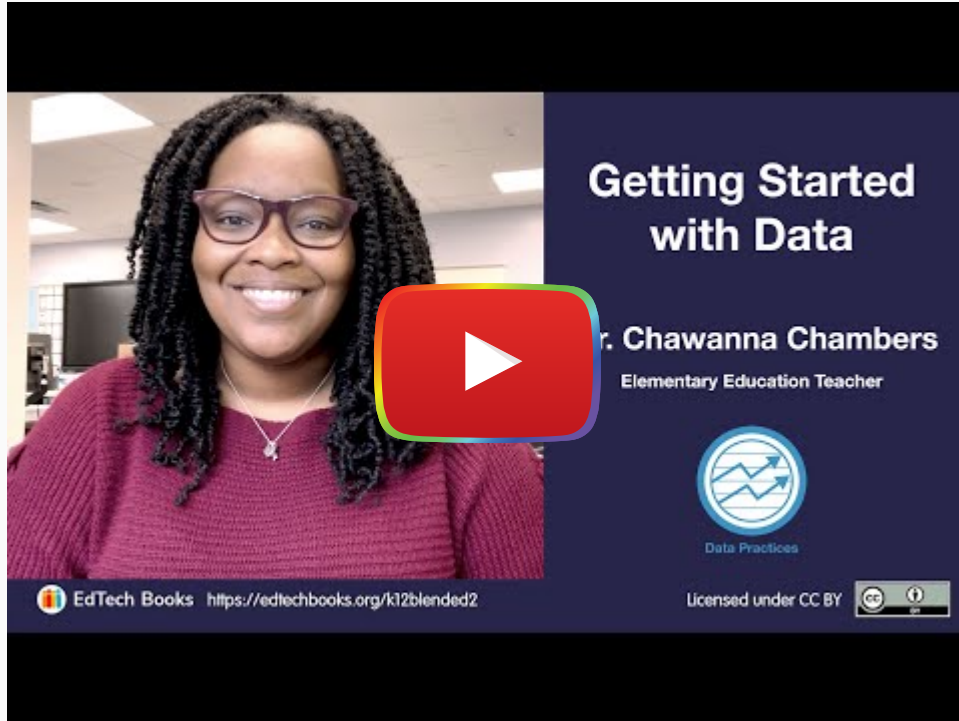
Chawanna Bethany Chambers, Bridgette Joskow, Jered Borup, & Nicole Sandrowicz



8.1 Collecting Data in Elementary Classrooms

In a blended learning environment, data are often automatically generated any time students participate in a learning activity. As Chawanna Chambers states in the following video, it can “feel like we have data coming out of our ears!” In fact, elementary teachers are constantly collecting and analyzing data, even if they don’t realize it. Our goal in this chapter is to help you become more mindful of the data you already collect and utilize, while also increasing your awareness of opportunities to use data in new ways.

Administrator Advice: Getting Started with Data



[Watch on YouTube](https://www.youtube.com/watch?v=...)

Reflection Question: How can you get started with data?

When used well, data can inform all parts of your teaching. They can help students see their own progress and identify areas needing improvement, help you understand the needs of specific students, and provide information students can use in setting and evaluating goals. Technology has greatly expanded the way data can be recorded, collected, organized, and used in a timely and efficient way. Because of technology, teachers can easily and quickly collect and use data to change and enhance their pedagogy, as well as group students, plan remedial and extended activities for students who need it, and target specific needs of individuals, groups, and an entire class.

Teachers Talk: Nicole Sandrowicz



Data can be found everywhere and can come in multiple forms, yet the form that's often overlooked is "street data." After reading Chane Safir and Jamila Dugan's book *Street Data: A Next-Generation Model for Equity, Pedagogy, and School Transformation*, I learned that conversations with students and stakeholders can be a tool that can elevate learning. This type of data promotes students' sense of belonging within their school and provides continuous opportunities for reflection and conversation to promote equity in school. It requires us to listen and observe the experiences and mindsets of students, teachers, and entire learning communities. Street data operates in real time, leading to school transformation.

In order for data to be helpful, they need to be organized in a meaningful way. You may want to use subjective and objective data, observations, performance criteria, and areas of a rubric aligned with a certain learning objective.

Data can be categorized as

1. **Learning Profile Data** that help you to know about students' personal interests and backgrounds as well as their learning preferences, tendencies, and confidence levels.
2. **Activity Data** that help you to know how students are spending their time online and their progress in an assignment or unit.
3. **Performance Data** that help you to know what students have learned, what they have yet to learn, and how well they have mastered learning objectives.

Table 1 shares a few examples of each of these types of data with suggestions on how you may collect or access them.

Table 1

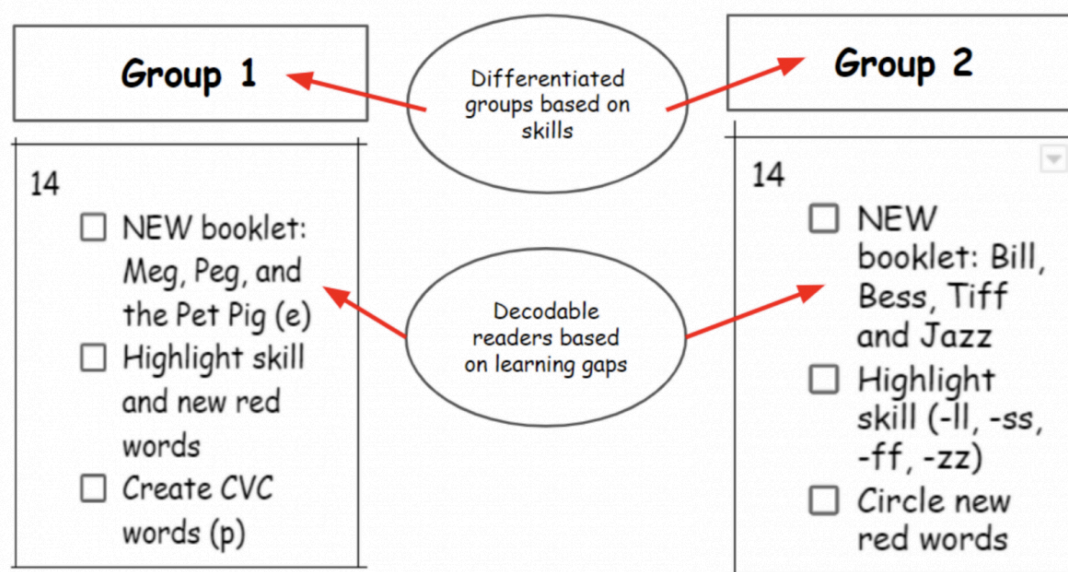
Collecting Data—Some Ideas

Desired Data Examples

Learning Profile Data	Data are often seen as impersonal. However, data can actually help you get to know your students. You might use a Google Form survey where students answer questions about how they prefer to learn (alone, in groups, by reading, watching, writing), hobbies, pastimes, perceptions of personal strengths and weakness in a subject area, what they want from the class, what they are nervous about in the class, types of assessments and activities they prefer, etc. Not only is an online survey a great way to efficiently gather and organize data, some students actually feel more comfortable sharing certain information in a survey rather than in personal conversation. Another option is for students to share their thoughts and feelings in a private video recording using a tool like Flipgrid. You can also simply notice and take notes on students' participation, interest in reading materials, friends, attention, outside interests, interaction with others, clues about home life, etc. By placing these notes in an online password-protected document or spreadsheet, you can easily and securely organize and use the data. You can also collect data by observing how your students seek help and then recording what you see: Do individual students seek help online, from other students, from you? Are they afraid to ask for help?
-----------------------	---

Desired Data Examples

	You can collect data on how well students are developing their ability to collaborate through self-reflections regarding their own collaboration and personal contributions, your own observations, working with them on a shared document so you can see the contributions of each student, and reports from team members. Course evaluations can also be a helpful source of learning preference data.
Activity Data	At times it can be difficult for blended teachers to know how students have been spending their time online. As one teacher explained, online data can act as “digital footprints.” Some learning management systems (LMS) and programs provide teachers with reports on how long students have been in LMS or program and which pages they have accessed. At times the most helpful information is a student’s last login time. Teachers can easily scan online gradebooks to check assignment submission patterns for a single student or an entire class. When students are using a school-provided device, teachers may even want to check an individual’s internet browser history when they become concerned that a student may not have been using online time wisely. Activity checklists not only help students stay organized and motivated, they can also help teachers track student progress. This is especially helpful when students have flexibility in their pace of learning. Paper checklists can become lost and may be difficult for teachers to access. When check lists are created and shared in collaborative documents such as Google Documents, they are easier for teachers to track and for students to follow.
Performance Data	Performance data is at the heart of blended teaching. Any assessment of learning will result in some form of performance data. For instance, in language arts and literacy, data can include a student's reading speed, comprehension, fluency, vocabulary, decoding ability, sentence construction, reasoning skills, application of grammar, punctuation, spelling conventions, writing composition abilities, etc. This form of data can allow teachers to create differentiated groups to teach specific information based on identified needs of their students. For instance, Nicole Sandrowicz uses data to create differentiated reading groups for her special education students, allowing her to better target learning gaps.



Standardized tests are commonly administered to students by the school district and state. The resulting data provide teachers with an important way to track student growth across multiple grades. Learning software, such as adaptive learning software, provides teachers with student performance reports. Teacher created assessments and the performance data they provide are the lifeblood of the classroom and can include pre- and post-assessments, exit tickets, projects, and interactive games such as Kahoot.

Using surveying tools such as Google Forms can be a helpful, easy way to collect learning profile data. Some tools also have grading features that allow a teacher to use them as assessment tools that can automatically score students' responses. Here is an example of a media-rich Google Form that was created by Jodie Faust to assess her third graders' understanding of Ancient Egypt.

If you are creating a survey for young learners whose reading abilities are still emerging, try including images in the response options. For instance, if you are asking students how they feel about something, you can have them select from a set of emojis. In the example below, Beth Hooser regularly uses pre-assessments with her first graders. At the end of the pre-assessment she has students rate their confidence on how well they were able to use the "Fist to 5" scale (1= This is really hard and 5= I could teach this) by selecting from images of hands holding up different numbers of fingers.

Pretest Fist to Five


[Sign in to Google](#) to save your progress. [Learn more](#)


Name


Your answer


How did you feel about the Pre-Test?


"Fist to 5"


1
"This is really hard."


2
"I get it a little bit."


3
"I can do it most of the time."


4
"I can do this by myself."


5
"I could teach this!"

Teachers Talk: Creating Surveys with Emojis for Young Students



Creating Surveys with Emojis for Young Students

Nicole Sandrowicz

Elementary Education Teacher



Data Practices



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[Watch on YouTube](#)

Reflection Question: What can you do to help young students express their feelings?

Teachers Talk: Collecting Data



 EdTech Books <https://edtechbooks.org/k12blended2>

Collecting Data

Madiha Siddiqui
~ Elementary Education Teacher



Data Practices

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[Watch on YouTube](#)

Reflection Question: How can you collect useful data in your class?

Teachers Talk: Tracking Student Use of an Online Library



[Watch on YouTube](https://www.youtube.com/watch?v=...)

Reflection Question: How can you track students' online behavior?



Blended Teaching Workbook

In your blended teaching workbook, you have a blank table like the one above. Decide what sources of data you would like to use in your classroom. Fill out the chart based on what data you want to collect. You may have to ask others for ideas on types of technology and what you need to learn to use the technology.

If you haven't already opened and saved your workbook, you can access it [here](#).



8.2 Utilizing Data in Elementary Classrooms

Data are only helpful if elementary teachers use them to improve their teaching and students' learning experiences. Data can help you in creating curriculum, differentiating activities and assessments, helping students set goals and personalize their learning, and tracking students' progress. Data can also help you see strengths and opportunities for growth in your curriculum and approach to teaching. As you look at the examples below, notice how these teachers are using data. Think of ways you could improve your class by collecting and analyzing data.

8.2.1 Using Data to Determine Mastery

Mastery in elementary classrooms focuses on building students' foundational skills across content areas. In the youngest grades (K–2), we typically see a heavy emphasis on mastering early literacy concepts, the building blocks for

children's academic careers. As students become more independent readers and are able to make deeper interdisciplinary connections in grades 3–5, the complexity of content mastery increases.

Tracking proficiency levels provides teachers with clear, actionable information they can use to create strategic groupings and intervention plans. Advancements in adaptive software have made it possible for elementary teachers to use technology to assess students' current skill levels and to address the unfinished learning revealed through the data. For example, one student may struggle with decoding Consonant-Vowel-Consonant-e (CVCe) words, while another's trouble area is decoding CVC words with the short i sound. Another may not have concerns with decoding but instead experience difficulty with reading comprehension. When teachers have this level of information, they can use educational apps to monitor progress and create goals with students so they may track their own growth.

Teachers should start by creating assessments that will act as clear benchmarks of student mastery. They can then design opportunities to collect data along the way to various benchmarks. Data from these formative assessments can help teachers differentiate instruction and adjust learning activities. For instance, it may be that some students have similar learning gaps and can be grouped together to learn and offer support. Students who excel can become mentors for those who need help and, in turn, can have students strong in areas in which they need more support become mentors for them.

Not only can technology help teachers collect data, it can also help them analyze that data and even make instructional decisions based on that information. For instance, adaptive learning software is constantly using student activity and learning data to adjust instruction and activities. Kindergarten teacher Angela Johnson briefly describes how she uses adaptive learning software to help her students develop literacy skills. Given that many children move from grade to grade with unfinished foundational literacy learning, adaptive learning software can help teachers meet students where they are and provide them with the instruction they need.

Teachers Talk: Using Technology to Differentiate Student Learning



[Watch on YouTube](https://www.youtube.com/watch?v=k32blended2)

Reflection Question: What tools are currently available that you can use to differentiate your students' learning?

8.2.2 Using Data to Help Improve Pedagogy

Because data often come from student performance and activity, if you pay careful attention to student data, you can learn a lot about how to best teach your students and what pedagogy to use. What activities lead to the best results for what kinds of learning outcomes? What confuses your students? When are they most behaviorally engaged? Does their engagement lead to understanding and mastering learning outcomes? Reflecting on questions like these can help you evaluate yourself as a teacher and your students as learners. They can lead to insights that can strengthen your pedagogy and help students achieve mastery as well as their learning goals.

Quizzes, quick checks, and exit tickets are common sources of learning data. When quizzes, quick checks, and exit tickets are created online, often the tool will automatically grade them, so teachers have more time to answer the question, "How can I best use learning data to improve my teaching and student learning?" Here are some ideas for answering that question:

1. If many students miss a question, check to see if there is a problem with the question (miskeyed, difficult wording, unclear answers or expectations). If there are no problems with the question, check the standard to which the question is aligned. Pinpoint specific areas of confusion, analyze your instruction, and modify where needed.
2. If most students answer correctly, check to see if the question is too easy. If it isn't, review your teaching strategies for strengths that you might be able to use for similar learning objectives.
3. If just a few students miss the question, you may want to pull those students out in a small group and reteach, remediate, give extra practice, etc.

In the following video, Chrissy McLaughlin shares how the automatic grading feature in her online exit tickets have allowed her to focus more of her time on actually using the data to improve learning and to determine intervention groups based on students' performance.

Teachers Talk: Streamlining Exit Tickets



[Watch on YouTube](https://www.youtube.com/watch?v=...)

Reflection Question: How can technology improve exit tickets that you use? What could be some downsides to using technology?

Teachers use data in all sorts of ways. Here are some examples of how teachers can use data in an elementary classroom. What ideas do their experiences give you?

Example 1: Using Data to Help Students Receive Services

During the Response to Intervention process, we collect and analyze data to identify instructional supports that work best for students. For instance, literacy-based learning software that assesses students' foundational skills often provides critical data that identifies the need for intervention. For example, embedded dyslexia screeners make it possible for teachers to identify students in need of further evaluation without added 1:1 screening time.

Example 2: Using Data to Determine Teacher Intellectual Preparation Adjustments

We can also use data to determine areas where we might be able to strengthen our planning and preparation. For example, reviewing students' answers on both classroom assessments and online activities helps teachers identify critical student misconceptions. From there, we can reference our instructional materials to assess their actual benefit when we initially addressed those concepts. This allows us as educators to see our own opportunities for growth

because we may have missed this type of misconception altogether or simply needed to dedicate more time to it on the front-end.

Example 3: Using Data to Adjust or Modify Instructional Materials

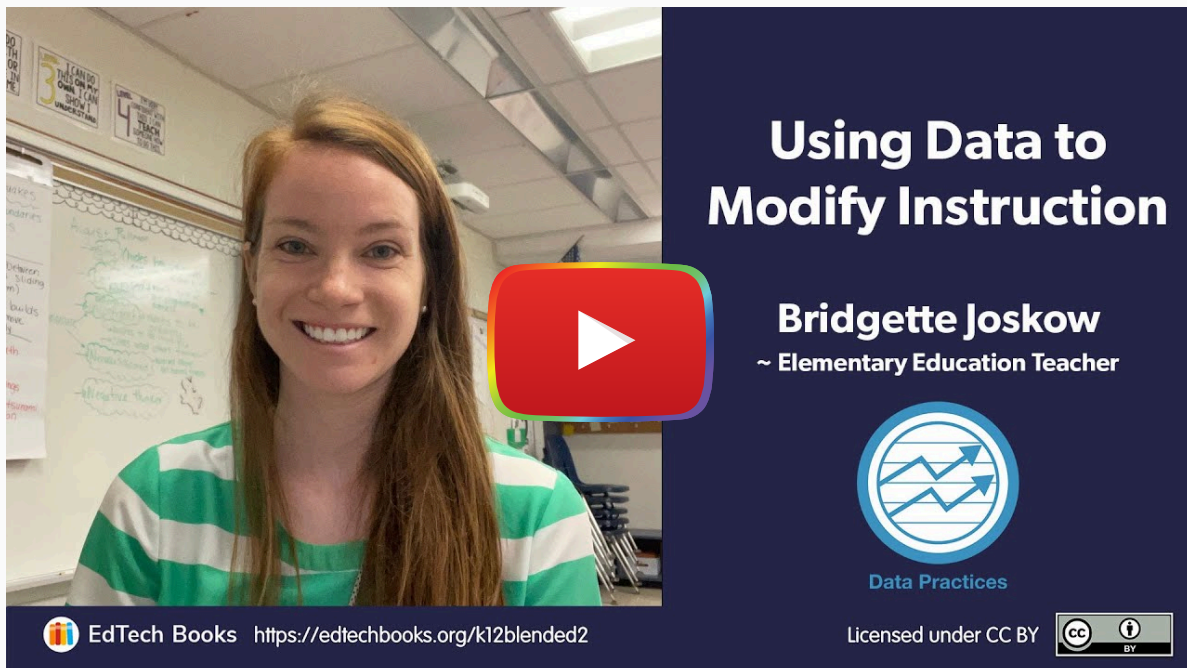
How do we know when our instructional materials need to be improved? The most reliable way is to closely analyze student data. This includes performance data but also demonstrates the value of qualitative surveys and conversations with students.

From a student survey or conference, we can better identify the topics that interest our students. This can be a vehicle for delivering foundational content that yields high, authentic engagement. Say 50% of your class loves YouTube and wants to be a vlogger. You might create an activity that asks students to work in groups to record a quick tutorial that explains or demonstrates a concept that their performance data show needs more practice.

Let's look at another example.

During your last three activities with a quiz game on Kahoot, you observed 100% participation and excitement. Further, students' performance on those questions was significantly higher than comparative results from some other methods you've tried. The data suggest students respond better to and might be able to internalize content with more ease if you use interactive, gamified methods. This new knowledge doesn't mean you will *only* use this approach, but it does suggest that your students might grow more quickly if you employed this type of technology integration more often during formative stages of learning.

Teachers Talk: Using Data to Modify Instruction



Using Data to Modify Instruction

Bridgette Joskow
~ Elementary Education Teacher

Data Practices

EdTech Books <https://edtechbooks.org/k12blended2>

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[Watch on YouTube](#)

Reflection Question: How can you use data to modify your instruction?

Example 4: Using Data to Group Students

Some edtech tools have a feature that allows teachers to group or sort students by skill level. In these instances, we can create small groups or intervention cohorts so our instruction focuses on personalizing actual student needs.

When it comes to grouping students, we should also consider whether the data show a need for remediation *or* for intervention, as these are not quite the same thing. Performance data often indicate a need to reteach, which should happen by using a different approach than was used in the initial lesson. Intervention focuses on addressing prerequisite skills (often from previous grade levels) students have yet to master. These skills are essential to demonstrating mastery of grade-level content.

For example, an elementary literacy teacher's data may suggest that students currently working in an adaptive learning software should be grouped in one of three small groups for intervention:

- Decoding VCe and CVC words (early decoding)
- Decoding words with hard/soft G (advanced decoding)
- Blending Onset Rime (phonological awareness)

V = vowel, C = consonant

While there are likely multiple skills to be addressed, the data indicate that students need more differentiation in one of the areas above to better support their advancement.

In math, this could look like focusing on re-presenting the concept of place value to ensure a group of students have mastered it before tutoring students on adding four-digit numbers.

Watch the video clip to listen as classroom teacher Chrissy McLaughlin explains how she uses tech to more efficiently deliver intervention for her students.

Teachers Talk: Maximizing Intervention Time



[Watch on YouTube](https://www.youtube.com/watch?v=...)

Reflection Question: How can you use data to maximize the little amount of intervention time that you have with your students?



Blended Teaching Workbook

Think of one source of data that you are not using but that you could use in your classroom. In your workbook, outline a way to collect that data and ways you can use it.

Collecting and using data may feel uncomfortable. You may think you can't do it. But if you think about it, you are collecting data all the time. You are watching your students, reviewing their work, interacting with them, and listening to them. You are ready to take the next step and find more formal ways to include data in your understanding of your students, their learning patterns and needs, and your strengths and weaknesses as a teacher. Data collection can open new ways of seeing.

In the next chapter you will begin to explore personalization in your blended teaching.

Previous Citation(s)

Chambers, C., Joskow, B., Borup, J., & Sandrowicz, N. (in progress). Eled: Data Practices. In C. R. Graham, J. Borup, M. A. Jensen, K. T. Arnesen, & C. R. Short (Eds.), *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines*, 2. EdTech Books. <https://edtechbooks.org/-kxUP>



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EEd: Personalization

Jered Borup, Nicole Sandrowicz, Bridgette Joskow, & Chawanna Bethany Chambers



9.1 The Importance of Personalization in the Elementary Classroom

To borrow a slogan from Burger King, the world is increasingly telling people to “have it your way.” We have never had more choices than we do now. The internet has provided us with seemingly unlimited products to choose from, many of which we can customize in multiple ways. In contrast, many classrooms still largely use a one-size-fits-all approach to learning. In the previous chapter, [Data Practices](#), we shared how data could be used to differentiate instruction. Personalization is another avenue to break free of one-size-fits-all instruction by putting students in the driver's seat and giving them some control over their learning. Personalized learning recognizes that students have different backgrounds, interests, skills, and abilities and honors those differences. By amplifying students’ voice and choice, personalized learning becomes a way to help students develop their strengths and overcome their weaknesses across content areas. It also helps them develop the skills they need to make good decisions and take ownership of their learning. In the video below Dr. Chawanna Chambers explains how blended teaching can facilitate personalization so that all students grow.

Teachers Talk: Adapting to Personalized Learning: A Leader's Perspective (5:08)



Adapting to Personalized Learning: A Leader's Perspective

Dr. Chawanna Chambers

Elementary Education Teacher



Personalization

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[Watch on YouTube](#)

Reflection Question: In what ways can personalized learning help you meet the needs of a diverse group of students?



9.2 Personalization Dimensions in an Elementary Classroom

One way to think about personalization is to examine the ways students can personalize their learning. The five dimensions of personalized learning serve as guidelines for ways or methods we can apply when encouraging students to personalize their own learning. These dimensions are time, place, pace, path, and goals. In the sections below we will explore each of these dimensions.

Figure 1

Five Dimensions of Personalized Learning



In the sections below we will explore each of these dimensions.

9.2.1 Personalizing Time and Place

Learning doesn't have to stop when students leave the classroom. Clearly this concept is not new. Students are commonly assigned homework that is meant to help them learn and practice skills. However, homework becomes especially difficult when students become stuck and can't turn to anyone else for help. This can also be frustrating for parents who have to take on the role of teacher at home but lack the skills to do so, as was hilariously depicted in the ["Math is math!" scene](#) in Disney's *Incredibles II*. You may have watched this video in chapter 3, but it's worth another watch while considering the importance of personalizing students' learning time and place.

Teacher Example (4:59)



[Watch on YouTube](#)

Reflection Question: How can you empower your special education students to personalize their learning?

In order for students to truly personalize their learning time (**when** they learn) and place (**where** they learn), they not only need continuous access to learning materials and assignments, they also need the necessary support to actually understand the learning materials themselves in order to complete the assignments. For instance, in *The Incredibles* clip above, Dash had access to the learning material (the book) but still needed support to understand the material in order to complete the assignment. Now imagine how that scene might have played out if Dash had a blended teacher who had made short instructional videos that walked students through example problems that he could have watched when stuck. Dash could have completed his homework on his own, and Mr. Incredible could have continued to watch television. (Perhaps not as funny a scenario, but better for learning math.)

Videos can be a great way to provide digital directions and instruction, but some educational programs, such as adaptive learning software (see the previous chapter on Data Practices), already have built-in supports that are available for students to use when and where they like.

If you've never given students the opportunity to personalize their learning time or place in the past, here are tips for getting started:

1. Create an online space for learning materials and directions.

The online space you create will likely be the online learning system (LMS) your school provides. As explained in our chapter Online Integration, creating and maintaining a learning management system (LMS) or class website can be especially important in helping students stay organized when personalizing learning time and place. For instance, [Google Classroom](#) is an LMS that is free and keeps getting better. The following screenshot was taken from a unit created by Corey Teitsma, an elementary teacher in Fairfax County Public Schools. Notice how he has included an orientation video, a popular Hollywood-type video to grab students' attention, a graphic organizer, a hyperdoc, a collaborative Google Slides, a discussion prompt, and a Google Doc checklist.

The screenshot shows a Google Classroom unit titled "Lessons 9-12: OREO Method Playlist" created by Corey Teitsma. The unit includes several resources, with purple arrows pointing from the unit content to the corresponding items in the list:

- Orientation video (top left)
- Graphic organizer (middle left)
- Hyperdoc (bottom left)
- Collaborative Google Slides (bottom left)
- Discussion prompt (bottom left)
- Google Doc checklist (bottom left)

The unit content includes:

- Lessons 9-12 Overview (Edited Aug 7, 2019)
- WATCH THIS FIRST! (Posted Aug 6, 2019)
- OREO Method Infographics (Posted Jul 26, 2019)
- OREO Method Playlist (Edited Aug 7, 2019)
- Reasons Brainstorming Planner (Due Jul 26, 2019)
- OREO Playlist Conferencing (Edited Aug 7, 2019)
- Lessons 9-12 You'll Know You're Done (Edited Aug 7, 2019)

Course by Corey Teitsma

Other teachers choose to organize their learning materials and directions on a class website. For instance, Google Sites offers an easy, free way to create a website. The following screenshot was taken from a Google Site created by Katie Bruechert, a middle school librarian in Fairfax County Public Schools. Notice how her website is simple and well organized with clear headings. She also starts with an audio-recorded orientation.

Lessons

Katie Bruechert
@MrsB_reads

Colonial America

Lesson 4: Jamestown

Learning Target: I can identify the hardships settlers faced at Jamestown and explain why Jamestown became a successful settlement.

Introduction

Start Here

Tasks:

- Read the Story of St. Ignace
- Read Chapter 1 of *Journal of the Voyage to the North*
- Take the Google Quiz on Jamestown and the Roanoke

Watch:

- Watch the video on the Story of St. Ignace
- Read Chapter 1 of *Journal of the Voyage to the North*
- What were some challenges the settlers faced?
- Why was Jamestown successful?
- How was Jamestown different from the Roanoke Colony?
- Take Notes on Colonial America Notebook

Read:

- Read Chapter 1 of *Journal of the Voyage to the North*
- Read Chapter 2 of *Journal of the Voyage to the North*
- Take Notes on Colonial America Notebook

Review:

- Watch the video on the Story of St. Ignace

ASSESSMENT

Assessment:

- Take the Google Quiz on Jamestown and the Roanoke

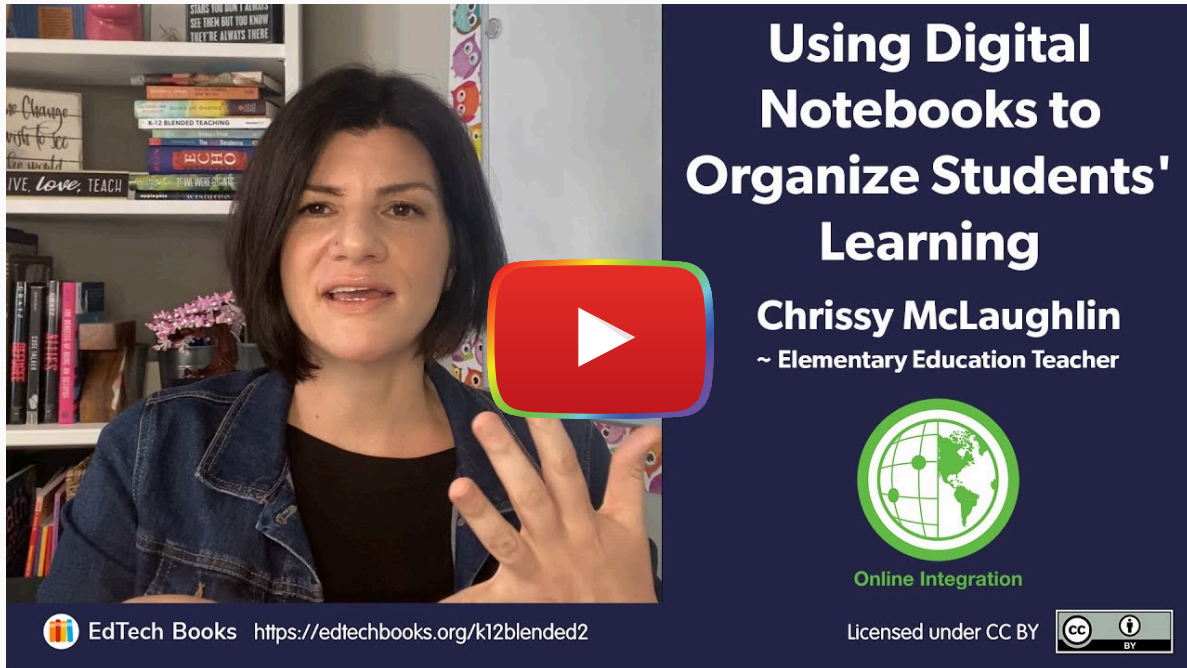
Orientation and Introduction

Activities

Assessment

A [previous video](#) in the Data Practices chapter shared how Chrissy McLaughlin uses free Google tools to create rich, interactive online learning platforms. In the following video, Chrissy adds how she uses Google Slides to create digital notebooks that allow students to personalize their pace of learning.

Teachers Talk: Using Digital Notebooks to Organize Students' Pace of Learning (1:52)



Using Digital Notebooks to Organize Students' Learning

Chrissy McLaughlin
~ Elementary Education Teacher

Online Integration

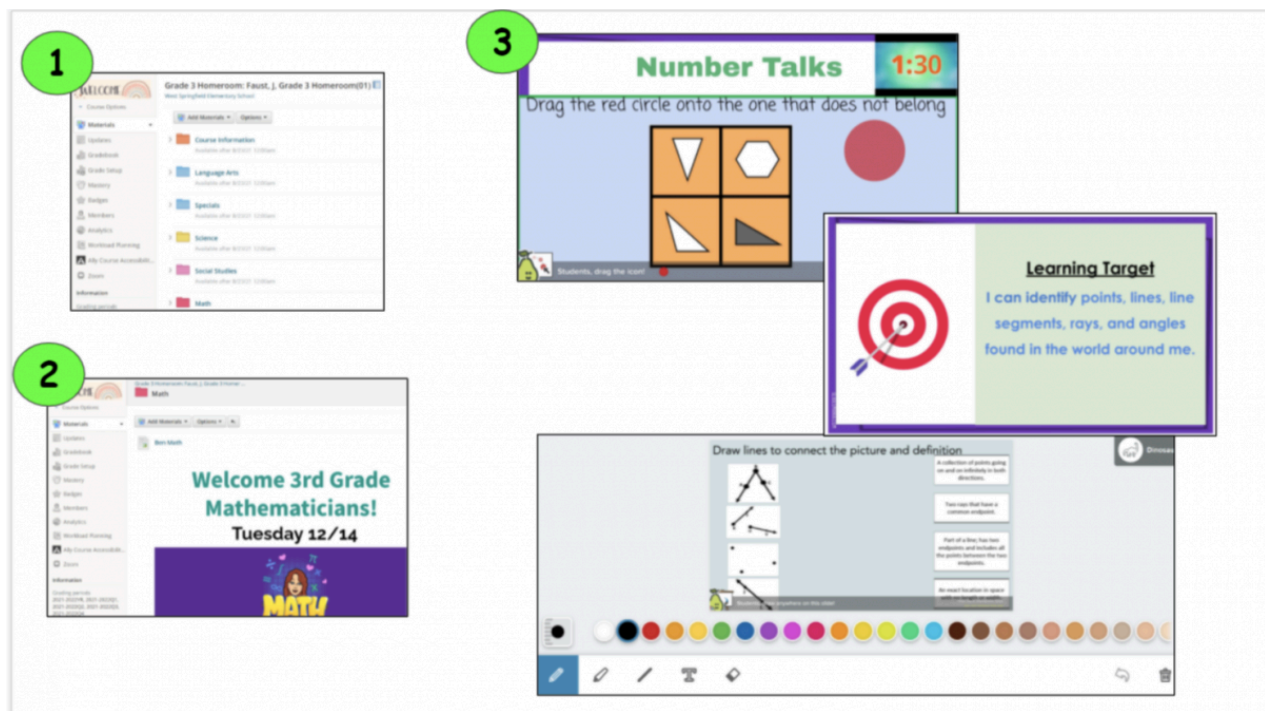
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[Watch on YouTube](#)

Reflection Question: Which online platforms can you use to allow students to better personalize their pace of learning?

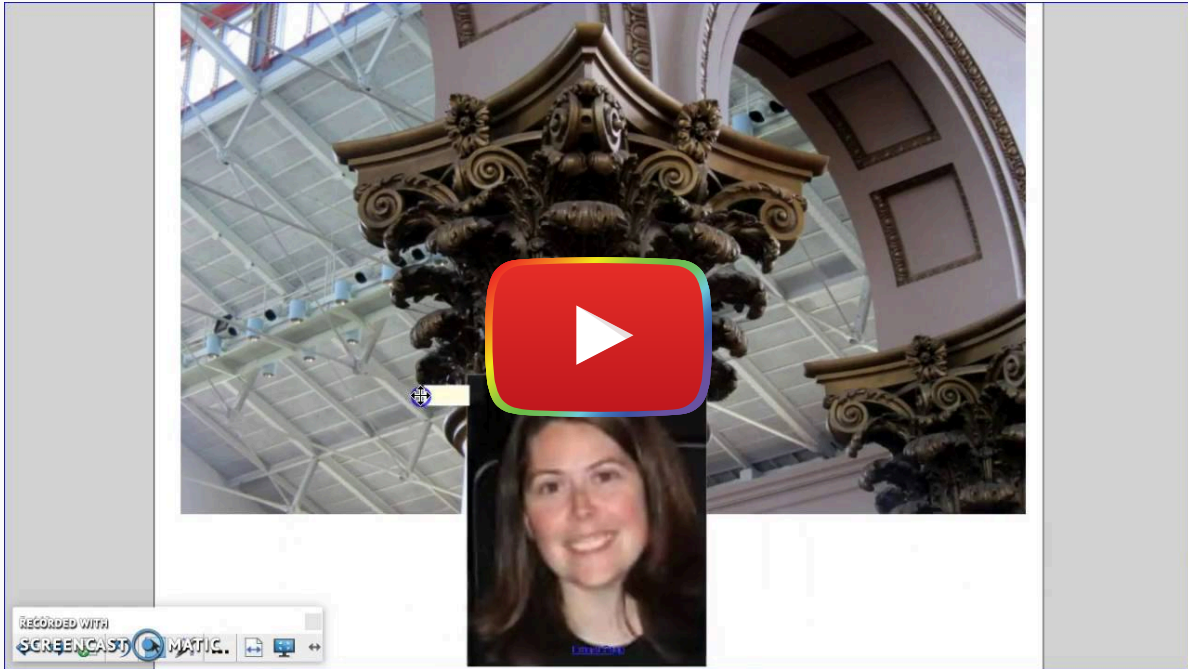
Along with Google suite, schools are also looking towards other LMS such as Schoology. Schoology uses a relatively simple design allowing lower elementary students to easily navigate pages. Below are some images of how Jodie Faust (a 3rd grade teacher) and Nicole Sandrowicz (a 3rd grade special education teacher) collaborate on Schoology to meet the needs of their special education students. The first image shows what students see when they log into a Schoology course. If the student clicks on the red Math folder it opens to an image for the slides that day (image #2). Once the student clicks on the image, it takes them to a personalized PearDeck to teach them the 3rd grade learning goal but also keeps in mind their needs (image #3). This activity was specifically created for a nonverbal student who struggled with fine motor skills. With these adaptations, the student was able to participate in the general education classroom at a personalized pace.



2. Create short instructional videos teaching concepts that can be challenging for students.

It's never been easier to create a video. There are free screencasting tools (screencast-o-matic.com is our current favorite) that you can use to record anything on your screen. Some tools also allow you to include a webcam video of you talking. In the following video, Crystal Dunn, a third-grade teacher, used Screencast-o-matic to record a short instructional video teaching Greek column orders. Notice that the video is relatively simple but has great visuals, and she even manipulates some of the graphics. (You'll never see Ionic columns the same again!)

Teacher Example

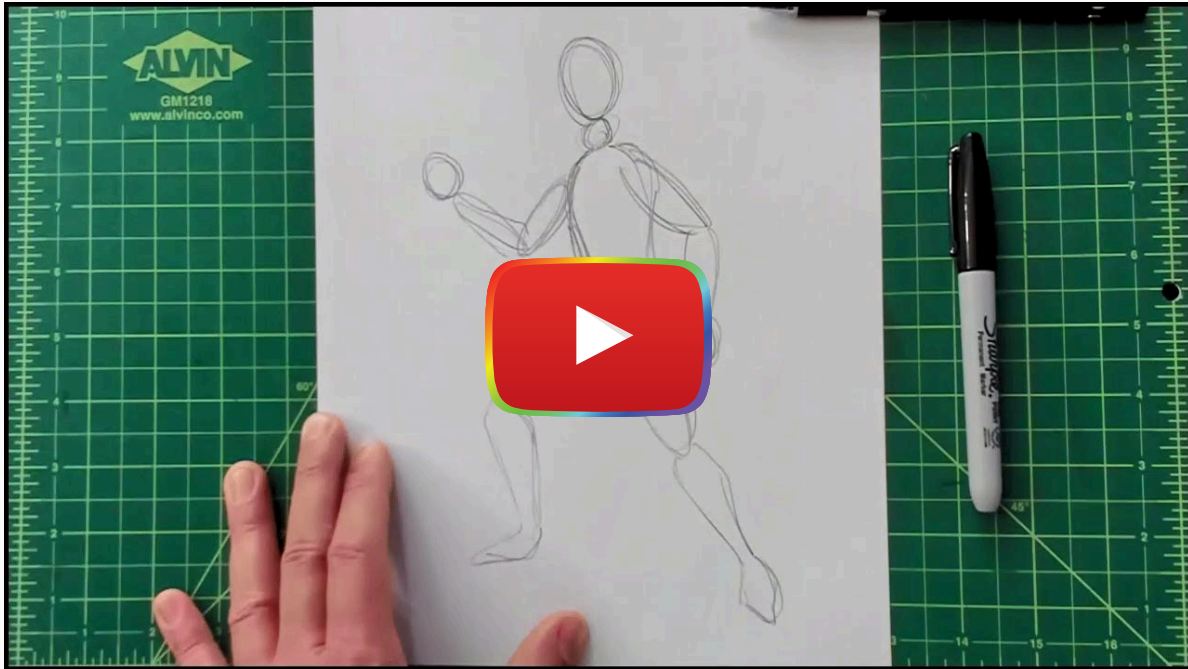


[Watch on YouTube](#)

Reflection question: How can you use video to help students to personalize their learning place, pace, and time?

You likely have a powerful camera on your phone that you can use to make instructional videos. Jacob Nawrot, an elementary school art teacher, created simple but effective videos by positioning a camera to film his drawing while recording his voice narration. Similar techniques could be used in any subject. For instance, imagine a teacher writing out math problems or reviewing a map in social studies.

Teacher Example



[Watch on YouTube](#)

Reflection question: How can you use video to help students personalize their learning place, pace, and time?

3. Adopt collaborative and communication tools.

Collaborative tools such as those found in Google Drive, online communication tools such as Flipgrid, and discussion boards allow students to extend their collaborations and discussions outside class time to anytime and anywhere they have an internet connection.

Allowing students to personalize their pace of learning is especially important for students because it provides them with the time and space to explain their thinking. Here is an example with Nicole Sandrowicz's Ancient Mali unit where her students were given a topic to respond to. This not only allowed Nicole to assess her students' knowledge but also provided students with opportunities to practice communication skills. Students could also respond anytime, during class or outside of school using audio or video recordings.

Flipgrid

Groups / Social Studies / Ancient Mali

Join Code: **cae71248** [Member view](#)

Dec 8, 2019

Moderated topic


Ancient Mali

22 responses • 0 views • 0 comments • 0 hours of discussion

What were two ways ancient Mali adapted to their environment?

First, the people of Mali mined _____.

Second, the people of Mali traded _____.

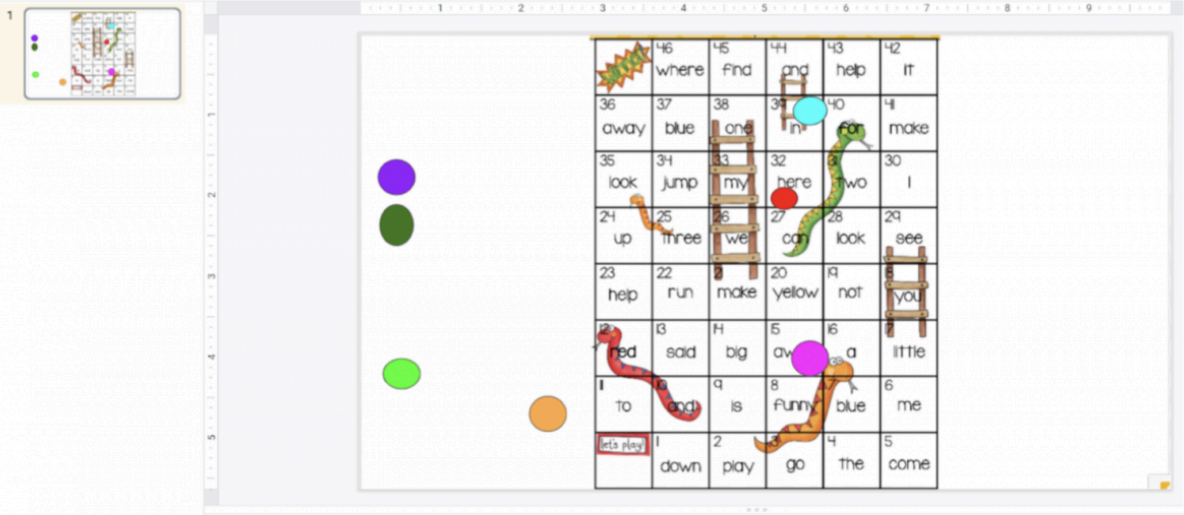


Below is another example of how Nicole Sandrowicz engaged her students to practice their sight words through a collaborative board game. "I took a regular board game and adapted it on a Google Slide. Each student was given the link so that they could log on and join from their computer. Each student was given a colored chip and took turns rolling a virtual dice. The students were so engaged that they continued playing with each other after at home!"

Primer Sight Words Snakes and Ladders

File Edit View Insert Format Slide Arrange Tools Add-ons Help

Background Layout Theme Transition



46	where	find	and	help	it
36	away	blue	one	in	make
35	look	jump	my	here	wo
24	up	three	we	can	look
23	help	run	make	yellow	not
12	red	said	big	av	a
1	to	and	is	funny	blue
1	lets play	down	play	go	the
					come

<https://www.online-stopwatch.com/chance-games/roll-a-dice/> - use this website to roll the dice. Then have students click and drag their color chip.

Emily Fox's fourth-grade students in Hawaii commonly edit videos collaboratively using WeVideo. Since WeVideo allows for synchronous and asynchronous collaboration, frequently students will start collaborating synchronously on a video in class and then continue collaborating asynchronously from home.

Please see our chapter Online Integration for more ideas on how these powerful tools can be blended into your learning activities.

9.2.2 Personalizing Pace

Allowing students to personalize their pace of learning (how quickly or slowly they complete assignments) requires the same level of online access and support that is necessary for students to personalize their learning time and place. In

addition, students need to be able to complete assessments and receive timely feedback from their teacher so they can move on to the next assignment. In a blended setting this can include assessments, such as a quiz, that can be objectively scored by technology. It can also include the use of an LMS, where students can submit their work online for the teacher to grade and return with feedback.

Personalizing the pace of learning often includes giving students a window of time on due dates for completing activities, assignments, and assessments. Personalizing pace encourages students to manage their time. They know what they need to do and when it needs to be completed.

If you've never allowed students to personalize their learning pace, here are some tips for getting started.

1. Create detailed digital instructions.

For your students to be able to personalize their pace of learning, they need to clearly understand your expectations. For complicated tasks, it's helpful to break each task down into manageable chunks that you can further divide, even bullet pointing the directions.

There are also times when visuals and examples can help. For instance, it can be helpful to do an assignment walk-through using a screencast video. Similarly, images can be helpful to demonstrate what to do and what not to do. Jacob Nawrot, an elementary school art teacher, created the following graphic to help his students better frame their photographs and video.

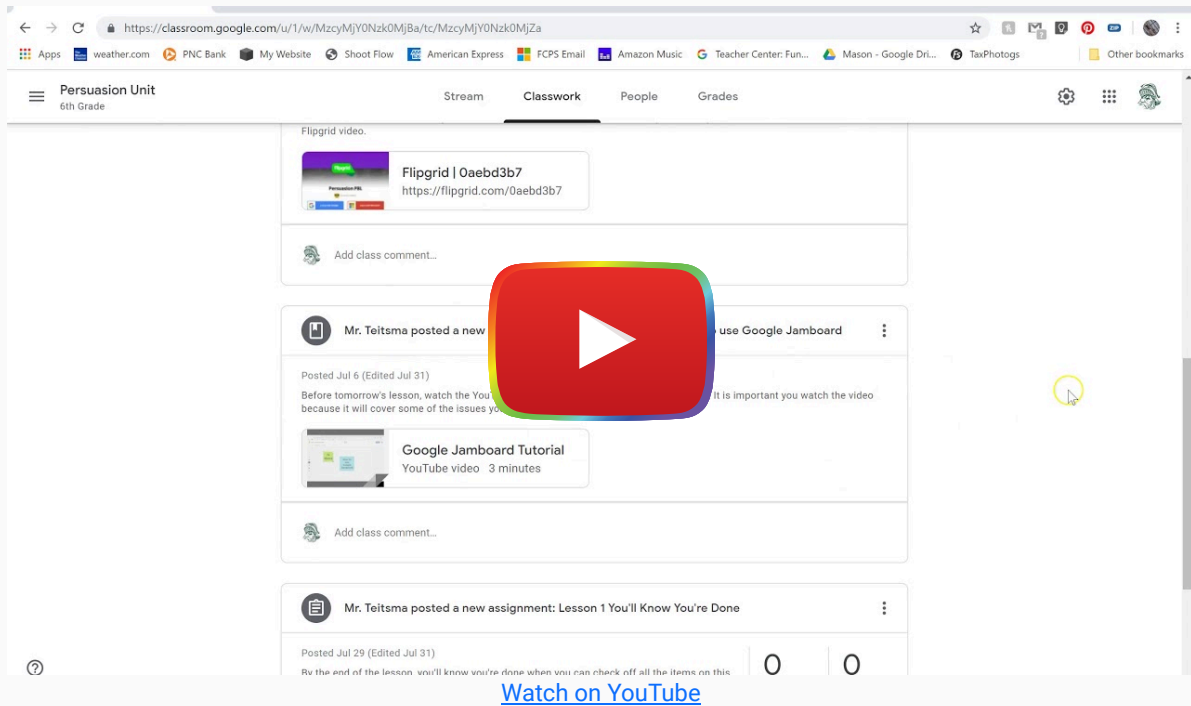


2. Create overviews and checklists.

When students are learning at the same pace, the teacher will typically start each lesson or activity with a whole-group orientation or overview. However, that one-size-fits-all approach is more difficult when students are provided some control over their pace of learning that allows them to start and complete lessons at various times. When teachers record a video orientation, students can watch it when they are ready to start a lesson. Additionally, checklists can help

students stay on task and answer the question, “What am I supposed to do now?” Checklists, along with rubrics, can also be a helpful final check to make sure students have completed everything before they submit their work. In the following video, see how Corey Teitsma orients his fifth-grade students to a new unit. Also notice that he provides a checklist to help students know when they are finished.

Teacher Example

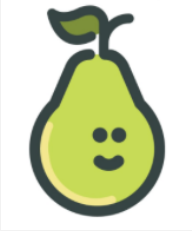






Reflection question: How can video orientations or directions help your students?

3. Take inventory of the self-paced educational software your school or district provides.

There are several tools specifically designed for self-paced, differentiated learning. While there are some free tools such as [Khan Academy Kids](#), most are proprietary. These tools tend to focus on literacy and math skills, but there are some resources that can help students self-pace their learning in other subjects as well. It's also important to note that these tools are not designed to replace the teacher and typically provide teachers with learning data and resources they can use to target students' learning deficits. There are also student-paced modes on tools. The following are some self-paced educational software that can be found in elementary schools:

Examples of Self-Paced Educational Software

 Pear Deck	 Nearpod	 ST Math
 I-Ready	 Imagine Learning	What other self-paced educational software is available at your school?

9.2.3 Personalizing Path

Allowing students to personalize their learning time (when), place (where), and pace (how quickly) is important, but none of them alone actually gives students the power to choose their learning activities or assessments. When you allow students to personalize their learning paths, your students will not all be doing the same assessments and activities.

If you've never provided students with opportunities to personalize their learning paths, here are some tips for getting started.

1. Provide students a choice between two options (this or that).

An easy place to start is to provide students with two options for learning activities or assessments. Emily Fox commonly provides her fourth-grade students with a choice about how they make their learning visible. For instance, she commonly allows students to choose between creating a Google Slides presentation or a video using WeVideo.

In the following video, Madiha Siddiqui shares how she typically provides students with digital and non-digital options on assessments.

Teachers Talk: Providing Students with Choice (1:20)



Providing Students with Choice

Madiha Siddiqui
~ Elementary Education Teacher

Personalization

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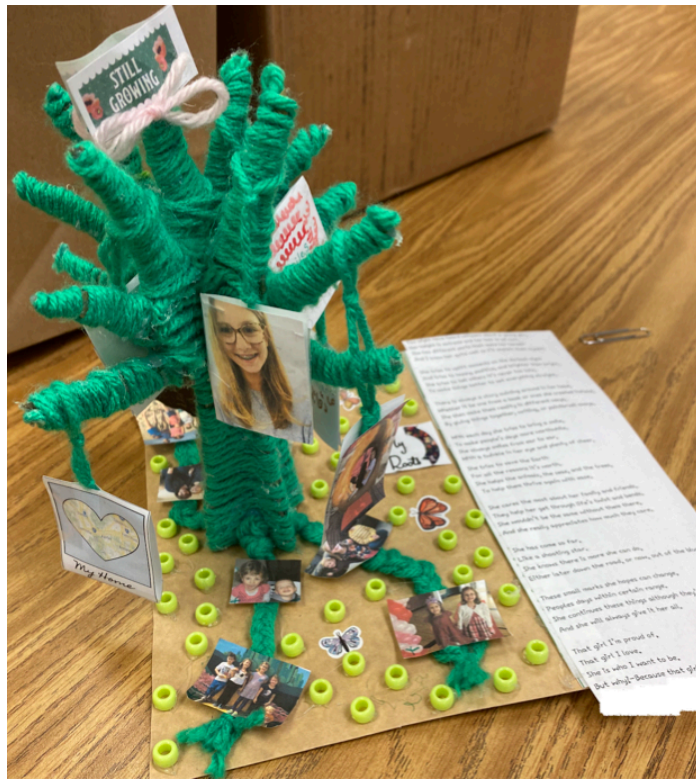
[Watch on YouTube](#)

Reflection Question: How can you integrate student choice in your students' next project?

Reflection Question: For what learning objective might you be able to utilize a choice board to differentiate and personalize your instruction?

2. Allow students to pitch their own assessment (this, that, or another).

Building on the previous suggestion of allowing students to select “this or that,” you can allow them to pick from “this, that, or another.” The “another” option is one they think of on their own that would meet all the criteria and is approved by you. Most students will not choose to design their own assessment, but you may be shocked to see the amount of extra work and time students are willing to put into an assessment they have created. For instance, during a poetry unit Chrissy McLaughlin required her students to present their poetry in some way. While she set clear requirements for the poetry, she allowed students to choose how they actually shared their poetry with the class and others. Many students choose to record themselves reading their poem. However, as you can see in the following image, some students took entirely different approaches.



In another example a student actually sang her poem and revealed an interest and talent that Chrissy was unaware she had.

Teacher Example: Personalized Assessment (2:49)



[Watch on YouTube](#)

Chrissy shared, “Allow students to choose their path. All I asked was for them to share their poetry however they envisioned it. They created what I could never have imagined. Letting them shine and grow creatively helps build community and connections.” In the following video, Chrissy explains how technology has expanded the ways her students can choose to make their learning visible and highlights some additional student examples.

Teachers Talk: Allowing Students to Personalize their Projects



Allowing Students to Personalize Their Projects

Chrissy McLaughlin
~ Elementary Education Teacher

Personalization

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[Watch on YouTube](#)

Reflection Question: How might student proposed projects benefit your students and increase their motivation?

3. Allow students to select activities from a choice board.

Choice boards typically organize learning activities on a 3x3 table and allow students to select the activities they wish to complete. The teacher can also require some of the activities and then allow students to select from the remaining activities. Joli Boucher, a K-5 Technology Integration Specialist and Literacy Information Technology teacher, created the following reading response choice board.

Reading Response Choice Board

 <p>Create a Vocabaroo with your book recommendation. Include at least 3 reasons why you do or do not recommend the book using evidence from the text.</p> <p>Post the link here:</p>	 <p>Create a Powtoon retelling the story from another character's point of view.</p> <p>Tutorial</p> <p>Post the link here:</p>	 <p>Create a timeline of at least 6 major events from your story using Google Drawings.</p> <p>Post the link here:</p>
 <p>Use Read and Write for Google Extension to highlight 3 unfamiliar or interesting words. Use the extension to create a vocabulary Google Doc and write each word in a new sentence.</p> <p>Post the link here:</p>	<p>Start Here</p> <ul style="list-style-type: none"> Read the book in your Storia account. Complete 3 more activities. (Fill in with green point) Turn in your work to Google Classroom when finished.  <p>Post the link here:</p>	 <p>Create a 2 minute Book Trailer to get other students interested in your book using iMovie. Use these PDFs to plan. Upload video into your Google Drive.</p> <p>Post the link here:</p>
 <p>Create a Google Form with 3 important questions you wonder about from the story. Your classmates will respond later.</p> <p>Post the link here:</p>	 <p>Complete a Google Sheet listing the main character's internal and external character traits. Provide 2 pieces of evidence for each trait.</p> <p>Post the link here:</p>	 <p>Create a Google Slideshow with 4 connections from the story.</p> <p>Text-Text Text-Self Text-Movie Text-World</p> <p>Post the link here:</p>

Created by @joliboucher www.flippedtechcoaching.com

In the following video, Chrissy McLaughlin shares her overall teaching approach to providing students with choice and describes how she uses choice boards to help facilitate student choice. Notice how Chrissy created a choice board and linked each choice to a presentation with directions and tutorials. Clearly, creating the choice board would have taken Chrissy a long time to create, but it was time well spent since the board could then be used repeatedly throughout an entire course.

Teachers Talk: Providing Students with Choice (2:27)



Providing Students with Choice

Chrissy McLaughlin
~ Elementary Education Teacher

Personalization

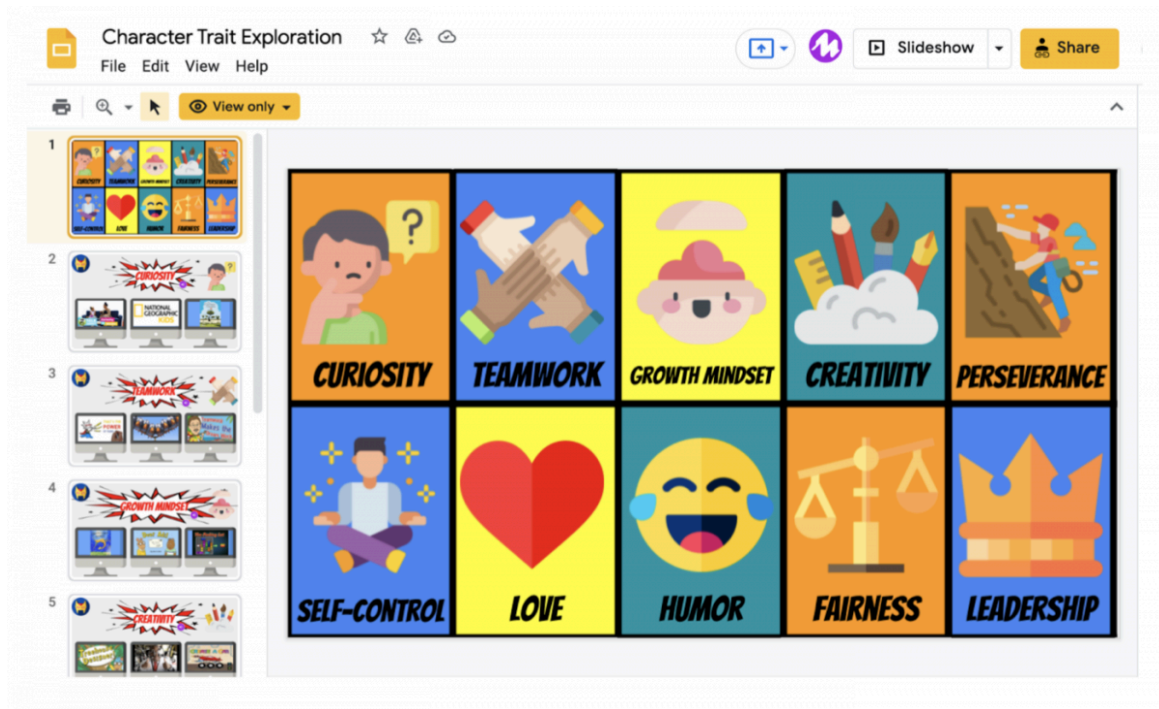
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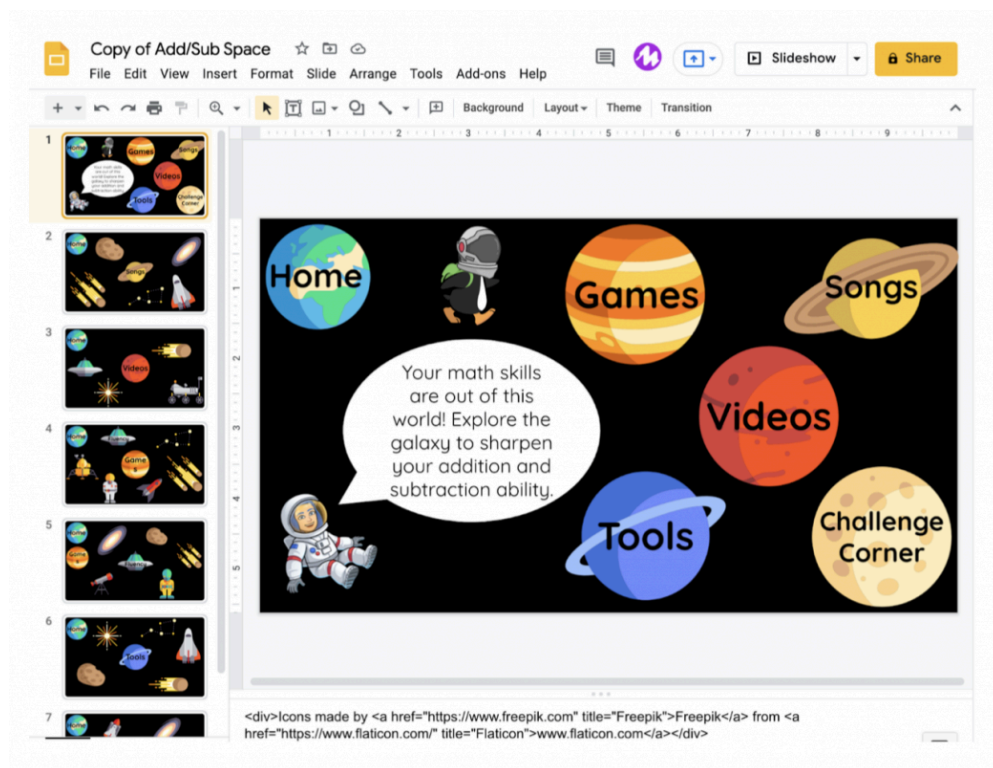
[Watch on YouTube](#)

Reflection Question: What options would you include in a choice board for an upcoming unit?

The choice board examples above focus on making students' learning visible so their teacher can assess it. Choice boards can also be used as a way for students to explore various learning materials and activities. For instance, Alex Dilldine, a first-grade teacher, created the following exploration choice board using Google Slides. On the first slide, Alex hyperlinked each of ten character traits to a slide containing media that taught students more about the trait.



Alex also created an activity exploration choice board using a space theme to better engage her first graders.



4. Provide students with differentiated, flexible playlists.

A playlist is an organized list of learning activities with all of the necessary resources students need to complete it. It allows students to personalize their pace of learning. Flexible playlists also allow students to personalize their paths of learning by deciding the order in which they will complete the activities and/or choose some of their own activities. In the following video, Beth Hooser, a first-grade teacher, shows how she creates flexible playlists in Google Slides. Notice how some of the activities are connected to Seesaw, where students can actually complete and submit assignments.

Teachers Talk: Allowing Students to Personalize their Projects (4:24)



Using Playlists to Personalize Student Learning

Beth Hooser
Elementary Education Teacher

Personalization

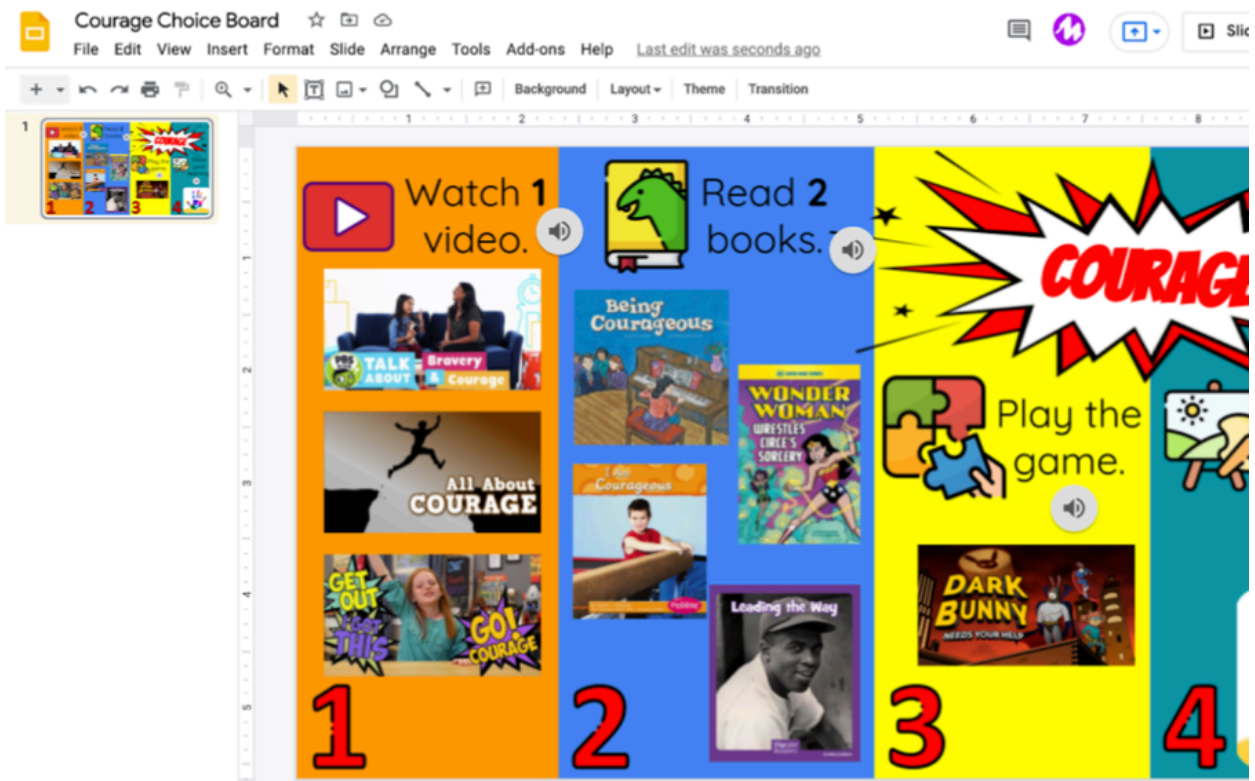
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[Watch on YouTube](#)

Reflection Question: For what learning objective could you incorporate differentiation and personalization into a choice board?

Alex Dildine created the following flexible playlist, where students were not given a choice in the order of activities. Instead, they were provided a choice at each phase. To better support students, she used Mote to place audio clip directions for each step. In fact, she included directions in both English and Spanish.



5. Use project based learning (PBL)

When done well, PBLs provide students with choice throughout the learning process—including students' paths of learning. In the following videos, Madiha Siddiqui and Emily Fox share examples of PBLs that they facilitated with their students. As you watch, consider all the student choice that was 'baked' into the process.

Teachers Talk: Allowing Students to Personalize their Projects



Allowing Students to Personalize Their Projects

Madiha Siddiqui
~ Elementary Education Teacher

Personalization

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[Watch on YouTube](#)

Reflection Question: How can you use a project to give your students greater choice in their learning?

Teachers Talk: Blending a PBL (5:11)



Blending a PBL

Emily Fox

Elementary Education Teacher



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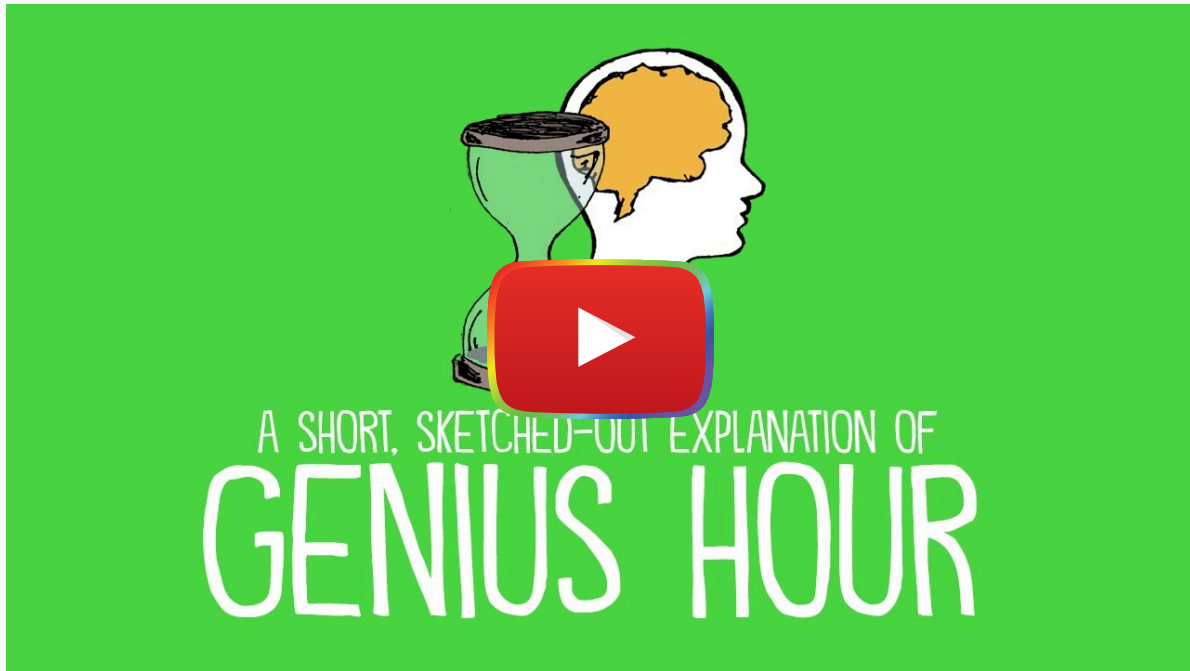
[Watch on YouTube](#)

How did Emily Fox use technology and choice in this project with her students? How could you use these tools in a similar way?

9.2.4 Personalizing Goals

In addition to personalizing learning time, place, pace, and path, teachers can also allow students to personalize their learning goals. For instance, many blended teachers have begun to implement a passion project or genius hour, where students choose a project that interests them. Students are then given time each week to work on their projects. The following video by John Spencer is a nice introduction to the concept, and [this article](#) provides good advice to elementary school teachers seeking to integrate a genius hour into their classrooms.

What is Genius Hour? An Overview of Genius Hour and 20% Time in the Classroom



[Watch on YouTube](#)

Reflection question: How could you use a genius hour to help students to personalize their path of learning?

Teachers can also allow students to personalize their learning goals within a specific topic. For example, many guided inquiry models provide students with time to immerse themselves in a topic and generate questions before they set their learning goals. Teachers can also help students to set, track, and reach goals focused on 21st century skills such as communication, collaboration, critical thinking, and creativity.

In order for you to facilitate students' goal setting, you and they need to understand something of their needs and proficiencies as learners. This is where you can use the data you have gathered from the activities mentioned in the Data Practices chapter. Information from such sources helps you understand where students are in their abilities, skills, and aptitudes. Learning outcomes and standards give focus for where students are expected to be. The difference between where students are and the course outcomes is the place for growth—and goals.

Goals are not goals if they are just aspirations. Writing goals down and tracking them are important processes for achieving them. Here are a few ideas about goal setting conferences and how they might be used in an elementary classroom.

- Teach and discuss the purpose for setting goals.
- Help students develop a growth mindset; create a culture of growth.
- Introduce a goal setting process such as SMART (specific, measurable, attainable, relevant, and time-bound).
- Take the time to meet with each student to learn more about them, their interests, and skills. These meetings can be included in a station rotation activity.
- Use meetings to review current areas of growth and progress.
- Invite the student to evaluate where new growth can take place.
- Record progress toward previous goals and write down new goals. Include a chart to help students visualize progress.
- Encourage students to track their progress in an online journal and or chart.



9.3 The Personalization Paradox

Researchers have found that “[b]y providing meaningful choice in the context of classroom activities, teachers can support students’ autonomy and foster deep and prolonged engagement in learning” ([Evans & Boucher, 2015, p. 90](#)). However, too much student choice can actually be detrimental to student learning. We can see this in our personal lives. Just look at online video streaming services that provide users with massive, neatly curated menus based on topic/genre with viewing suggestions based on individual demographics and previous viewing behaviors. While there are clear benefits to this level of access and choice, some couples and families now engage in a nightly ritual of sitting in the same room while each person watches something different on their personal devices—not the best way to form relationships with those who are physically close to us. In our personal and academic lives, too much choice can also cause “choice overload,” where people scroll through options but are never able to make a decision. This form of FOMO (fear of missing out) can also make us feel less satisfied with the choices that we do make (Iyengar & Lepper, 2000). Evans and Boucher (2015) explained that “in order for choice to be motivating, it should be ... provided in just the right amount” ([p. 90](#)).

Some schools have taken student choice and voice to the extreme (see in this fascinating [9-minute documentary on Sudbury Valley School](#)). However, total choice in learning time, place, pace, path, and goals doesn’t work for most students.



When designing learning activities, teachers should remember that students’ ability to personalize learning varies across students and that too much choice too early can overwhelm them. Teachers also need to balance the need for students to personalize their learning with other needs such as collaboration development and communication skills.

However, all teachers—regardless of their students—can introduce meaningful student choice into their learning activities.

Teachers Talk: Empowering Special Education Students to Personalize their Learning



Empowering Special Education Students to Personalize Their Learning

Nicole Sandrowicz

Elementary Education Teacher



Personalization



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[Watch on YouTube](#)

Reflection question: How can you empower your special education students to personalize their learning?



Blended Teaching Workbook

In your Blended Teaching Workbook, create a few ideas of personalized *assessments* that students can choose from in order to show mastery of the content area you choose earlier.

If you haven't already opened and saved your workbook, you can access it [here](#).

Previous Citation(s)

Borup, J., Sandrowicz, N., Joskow, B., & Chambers, C. (in progress). EIED: Personalization. In C. R. Graham, J. Borup, M. A. Jensen, K. T. Arnesen, & C. R. Short (Eds.), *K-12 Blended Teaching (Vol 2): A Guide to Practice Within*



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Appendices

Charles R. Graham, Jered Borup, Michelle Jensen, Karen T. Arnesen, & Cecil R. Short

Appendix B: Research

Previous Citation(s)

Graham, C. R., Borup, J., Jensen, M. A., Arnesen, K. T., & Short, C. R. (in progress). *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines*, 2. EdTech Books. <https://edtechbooks.org/-QNCX>



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Appendix B: Research

Charles R. Graham, Jered Borup, Michelle Jensen, Karen T. Arnesen, & Cecil R. Short

This book was written for practitioners and so does not reference research throughout, as you might see in an academic publication. However, the editors are well-published researchers in the area of K–12 blended and online teaching.

If you are interested in the research related to the K–12 Blended Teaching Readiness model that is used to organize this book, below are some references that you can look up. Also, please feel free to reach out via email to charles.graham@byu.edu or any of the other editors.

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Previous Citation(s)

Graham, C. R., Borup, J., Jensen, M. A., Arnesen, K. T., & Short, C. R. (in progress). *K-12 Blended Teaching (Vol 2): A Guide to Practice Within the Disciplines, 2*. EdTech Books. <https://edtechbooks.org/-QNCX>



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