Designing Effective 1-1to-1 Virtual Classrooms:
Leading with Evidence-Based Pedagogy

1-to-1 virtual classrooms (aka: class websites) are online interactive resources that are initially created by the teacher, but developed over the course of a school year by they and their students. They are extensions of the physical classroom and as such they are the result of multiple influencers, including: (1) the teachers theory about how students learn, (2) their 1-to-1 pedagogy, and (3) what they want to achieve, and the influence laptops can have toward that end as a thinking, learning, doing tool *(as prime instruments of our day for intellectual work that promote critical thinking and the development of the creative process while empowering students and their teachers to do things that had previously not been possible).* Virtual classrooms extend the basis for a 1-to-1 'discipline of learning' that includes both classroom routines and instructional routines. In short, when strategically created with an understanding of their potential and dynamic quality, virtual classrooms provide invaluable 21st century learning environments. However, if teachers do not keep the influencers above in mind, virtual classes can become new digital mediums that are used simply to deliver instruction and learning in old ways. *We are failing to leverage even the simplest of 21st century technologies; and yet intuitively we seem to know they suggest enormous possibilities.* (Bruce Dixon, AALF President; Understanding Virtual Pedagogies)

It is crucial that teachers 'lead with pedagogy' as they envision and create their virtual classrooms by continuing the work begun in Sessions 1 and 2, and by identifying essential elements of their virtual classroom while exploring new opportunities these make available for student engagement and learning. An educator's pedagogical development should be based, in part, on research emerging from technology rich classrooms, including 1-to-1 classes, that informs teachers about how the developments in technology have influenced our societies and consequently, our classrooms.

1-to-1 Virtual Classroom: Organization

Designing effective virtual classroom structures begins with our previous work of (1) identifying and clearly articulating goals (teachers and schools/districts) and aligning your expectations to these goals, while also (2) considering your theory about how students learn as well as your 1-to-1 pedagogy statement. Identifying and including the 'must-have' elements of your physical classroom also provides invaluable support for your students during face-to-face learning time and beyond.

Virtual classrooms are not just about doing what we did before but in a different way; instead, they are about doing something that was previously not possible for both teachers and students. This includes higher-order thinking and doing engagement because of the type of learning tasks in which students can participate through their virtual classrooms. The organization of your virtual classroom is dependent on the various purposes you have in mind for your website, and so identifying those purposes is the next step in this work. The following include some of the new array of opportunities available through your virtual classrooms (NOTE: these are not presented as an inclusive list, however, each of the following have been implemented in 1-to-1 classrooms internationally, and so they have some degree of best practice development by teachers).

Layers of Teaching and Learning

1-to-1 virtual classrooms can …

- Engage students to pursue their own learning without having to be directed by the teacher at all times;
- Provide a resource for extended and continuous student learning in the classroom and beyond the classroom walls;
- Provide teachers with an additional effective teaching tool;
- Provide a collaborative space for students, teachers, and experts;
- Provide a place for students to share and donate their learning and the knowledge they are developing;
- Provide a digital place for teachers and students to archive content and information;
- Make available those resources used for direct instruction, classroom routines, and instructional routines;
- Provide access to Web 2.0 resources;
- Act as an effective communication tool with students, parent, and community.

Some essential organizational questions for teachers to consider when designing and creating virtual classrooms include:

- How can I design my virtual classroom to address the elements included in the *21st Century Learners* graphic above?
- How will my learners need to be engaged and how can my virtual classroom support this engagement in order to meet my goals and expectations?
- Will students use our virtual classroom to collaborate? How and with what resource?
- How can my virtual classroom provide students with the opportunity to collaborate and take-risks while applying what they are learning through brainstorming, innovation, and creativity?
- How will students present their work to an audience (face-to-face and virtual)?
- Can I provide defensible evidence for why/how my virtual classroom supports student learning in my 21st century classroom?
- Does my virtual classroom accelerate learning? How?

The following pages provide you will a table that provides research findings in four areas that influence the organization and design of an effective 1-to-1 virtual classroom. Specific research results are included in the first column where you will also find correlation to the *21st Century Learners* graphic found on page 2. In column 2 you will find virtual classroom design principles that are based on these research results. Lastly, column 3 provides classroom examples of each of the research results that are being shared by 1-to-1 teachers from around the world.

(NOTE: The information and examples in this table are not inclusive of all 1-to-1 research but are presented as vital elements of effective classroom website organization).

Why Virtual Learning Spaces?

A virtual classroom is an online resource that teachers create and maintain, many times with the input of their students. They are meant to compliment or support teaching and learning in face-to-face classes.

Elements of Virtual Classroom	Brief Description
1. It is a valuable resource for student learning.	The teacher organizes their virtual classroom with their diverse student needs in mind. The site provides students with the opportunity to contribute to the learning culture of the class. The teacher trains students how to use the virtual classroom as a valuable resource for learning.
2. It is an effective teaching tool.	Both teacher and students 'step into' the virtual classroom regularly during instruction; they refer to it in order to complete tasks and to share their ideas and learning. It is a resource used to empower students to remain focused on their learning.
3. It provides continuous learning access for students (eliminates the classroom walls and makes learning available 24x7)	The teacher creates and maintains a virtual classroom that provides support for student learning, both during class as well as away from class. Students know that the class resources and learning tools are available to them at all times. They refer to the virtual classroom to support their learning.
4. It incorporates access to Web 2.0 resources and so helps create an opportunity for everyone to contribute to the class learning culture; as such, it engages all learners.	The teacher identifies and includes the resources students will need to be effective learners in their class. This includes teacher created tools as well as Web resources (1.0 and 2.0) that they will be using to support student learning. These resources are updated regularly to meet student needs.
5. It enables teachers & students to gather various resources to engage students in learning tasks (*Task predicts performance).*	The teacher identifies the Web resources (1.0 & 2.0) they will be using to support student learning. The teacher engages students in identifying Web resources that support their learning. These resources are also included in the virtual classroom.
6. It engages students to pursue their own learning without having to be directed by the teacher at all times.	The teacher establishes the virtual classroom so that it can be used during class and beyond to guide students in their learning. The teacher establishes Classroom Routines and Instructional Routines and holds students accountable for following those routines; the virtual classroom supports these routines.
7. It is an effective communication tool. • Teacher-to-student/Parent/Community • Student-to-student/teacher/parent/community	The virtual classroom is used by the teacher and students as a communication tool. This communication meets the needs of all stakeholder groups.

Last Thoughts

Not every teacher will have the freedom, choice, or means to redesign the factors of time and space in their classrooms...that is understandable. The point here is to think about how learning spaces will affect your students and recognize (or begin to recognize) that, "When considering the significance of small things, there are no small things." Moving student desks from rows into collaborative arrangements or providing students with a 'collaboration corner,' both physically and virtually, is a first step that can influence student learning and the effective implementation of laptops as thinking, learning, doing tools in our 21st century classrooms while also influencing the evolution of teacher pedagogy.

Designing 1:1 learning spaces will be a new experience for some teachers, and consequently, this may be a challenge. It is helpful to understand that the work of designing learning spaces is a process that provides new opportunities – opportunities that should not be passed by for teachers, their peers, and students. Educators have a golden opportunity to build their pedagogy and pedagogical practices as well as they also develop dynamic learning settings that address both time and space. Whether this is a new concept or you are experienced at the learning space design process, being reflective about your current learning space design is crucially important.

 Lastly, implementing a 1:1 program provides educators with an excellent opportunity to reflect on their knowledge about how how technology has altered society, schools, and classrooms and to investigate how laptops as very powerful thinking, learning, doing tools provide seamless and dynamic learning opportunities for your students.