



# A Guide to Change Management in K-12 Education Technology

SEVEN KEYS TO ENSURE SUCCESS WHEN  
IMPLEMENTING TECHNOLOGY SOLUTIONS



PowerSchool



## Dr. Sally l'Anson

Dr. l'Anson is a PowerSchool thought leader. She has trained educators in curriculum, instruction, and assessment as well as in data-driven educational practices. She has taught at many levels; served as an administrator in private, public, and charter school settings; and consulted with state departments of education.



## Rebeka Fergusson-Lutz

Rebeka Fergusson-Lutz is a writer, artist, and educator. Over the past 15 years, she has taught English and ESL in public and private schools in the United States and abroad at the middle school, high school, and college levels.



# Contents

### CHAPTER 1

Choosing the Right Time for Change ..... 4

### CHAPTER 2

Identifying the Need for Change..... 6

### CHAPTER 3

Assembling the Change-Agent Team ..... 8

### CHAPTER 4

Getting Staff to Buy In to the Change.....11

### CHAPTER 5

Communicating for Successful Change... 13

### CHAPTER 6

Using Best Practices in Implementation ..16

### CHAPTER 7

Building a Culture of Change.....18

**WORKS CITED** ..... 19



**M**anaging technology change in school districts—or even a single school—is a Herculean task. Experts in the field often liken large-scale technology transitions to wrestling an alligator. There are two potential outcomes of the wrestling match: if the chief technology officer (CTO) subdues the beast and successfully implements the new hardware, software, or system, the CTO keeps his or her job and is lauded as a hero or heroine. Alternatively, however, the CTO can suffer a grisly attack, both the implementation and suffer serious professional consequences, including loss of respect from colleagues, demotion, or even termination.

While this metaphor may seem extreme, most chief technology officers realize that change management skills are critical to their professional survival. The CTO's job is to identify and invest in technology products that will advance the district and/or school and improve student learning.

### FISCAL AND POLITICAL CHANGE CHALLENGES

- Dwindling federal dollars in state and local budgets negatively affecting general fund and specific programs
- Increased pressure from school boards and their constituents demanding to see the returns on technology investments

This e-book provides K-12 education technology leaders with steps they can take to ensure that, no matter the scope or scale of an implementation, technology change will be successful.

- **CHAPTER ONE** presents ways to recognize and understand the culture of change in a district and/or school to help determine the right timing for a change.
- **CHAPTER TWO** identifies the factors driving changes in educational technology.
- **CHAPTER THREE** outlines the process of forming a change management committee.
- **CHAPTER FOUR** addresses planning for the change.
- **CHAPTER FIVE** describes the importance of communication and delineates ways to communicate the change.
- **CHAPTER SIX** teaches the keys to successful implementation.
- **CHAPTER SEVEN** provides suggestions for continuously removing barriers to change and maintaining a culture of change.







## CHAPTER 1

# Choosing the Right Time for Change

Technology alone cannot remediate or accelerate student learning. Too often, districts are wooed into believing that a piece of software will fix a problem or advance learning, **but only teachers and students can make lasting changes in academic growth.** Software must be selected and implemented purely as a tool to support teaching and learning. When districts and schools view technology in this way, the **frenetic “app-of-the-month” culture** shifts to one in which teachers are included in the decisions to purchase specific software, which allows them to carefully select the tools they need to teach more efficiently.

Recognizing the right time to initiate a change is critical for the effective implementation of any new initiative—technological or otherwise. This is particularly true in districts and schools that are notorious for “change fatigue” (Orlando, 2013). In such districts and/or schools, one can interview any seasoned principal or teacher, and he or she can rattle off a long list of technology initiatives that have come and gone. To avoid a similar fate with their proposed technology changes, CTOs should invest the time to get to know the history of change in the school and/or district.

... only teachers and students  
can make lasting changes in  
academic growth.



# Understanding the History of Change in the School/District

CTOs are highly aware of technology changes at the district level. They may not, however, always know about school-level technology changes or other non-tech-related changes (e.g., curriculum, staffing, facilities, etc.) **Approaching stakeholders to propose a change without knowing their current, recent, and past experiences with change is risky.**

Whether the CTO has been working in the same district for years or is new to the district, the same research questions apply.

Understanding the volume of change cannot be underestimated: very often, the schools that suffer the most from change overload are those that struggle to meet local and state standards (Duke, 2010).



## Conduct Baseline Research to Know:

1. The completion date of the last significant change in the district
2. The stakeholders that were most impacted and how they are currently feeling about the change
3. How many changes have been implemented in the last 1-3 years

- 1 **First, it is important to know the completion date of the last change in the district.** This change does not necessarily need to be related to technology but should be relatively significant. For example, the change could have affected a grade level of students or teachers, a subject or vertical content group of teachers and students, several schools, or a subgroup of students.
- 2 **Additionally, it is important to know if the stakeholders affected by the change were (or are) happy or unhappy with the implementation of the change and the outcomes.** Specifically, CTOs should ask if stakeholders have realized how the change benefited them personally. This detailed research will typically reveal multiple reasons for what went well and/or poorly with the previous change.
- 3 **Lastly, it is important for CTOs to know how many changes have been implemented within the last one, three, or five years.** Understanding the volume of change cannot be underestimated: very often, the schools that suffer the most from change overload are those that struggle to meet local and state standards (Duke, 2010). Effective CTOs will be sensitive to the cadence of change in the district—and specifically in the schools that are working overtime to meet the needs of struggling students. Having detailed knowledge of stakeholders' change experiences will help to build consensus for the next change.



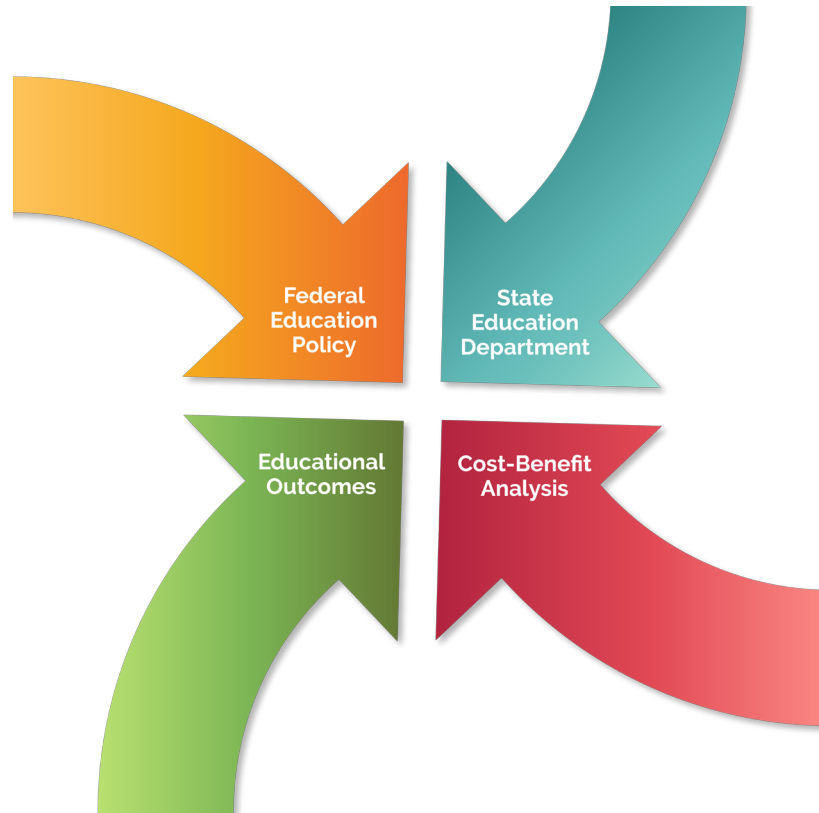
time for change



## CHAPTER 2

# Identifying the Need for Change

### Four Change Drivers



### Federal Education Policy

In K-12 education technology, there are **four main change drivers**. One of the major catalysts in this area is the **federal department of education**, which regularly mandates changes through revised or new legislation. A well-known example of such a policy decision is the No Child Left Behind Act that required subgroups of students to meet certain academic benchmarks. This policy change forced districts and schools to find or create technology solutions that would allow them to identify student subgroups and track their performance.

### State Education Department

Another major force that propels technology change in schools is the **state education department**. For example, in the Commonwealth of Virginia, the Department of Education required districts to assure that every high school student had taken at least one online course before graduation. This required many districts to purchase an online learning management system, develop curricula, and train teachers to teach using the new learning management software.



## Cost-Benefit Analysis

Very often, CTOs do a **cost-benefit analysis** that compels them to make a major change. They conclude that the pain of making the existing technology continue to function properly is greater than the discomfort that comes with the risk of taking on a new solution. A common example of this driver is when a school's technology staff works countless hours to make newer versions of software or new applications function with an aging student information system. CTOs in this scenario very often opt to take the risk of changing the student information system, even though they know it may be a lengthy process.

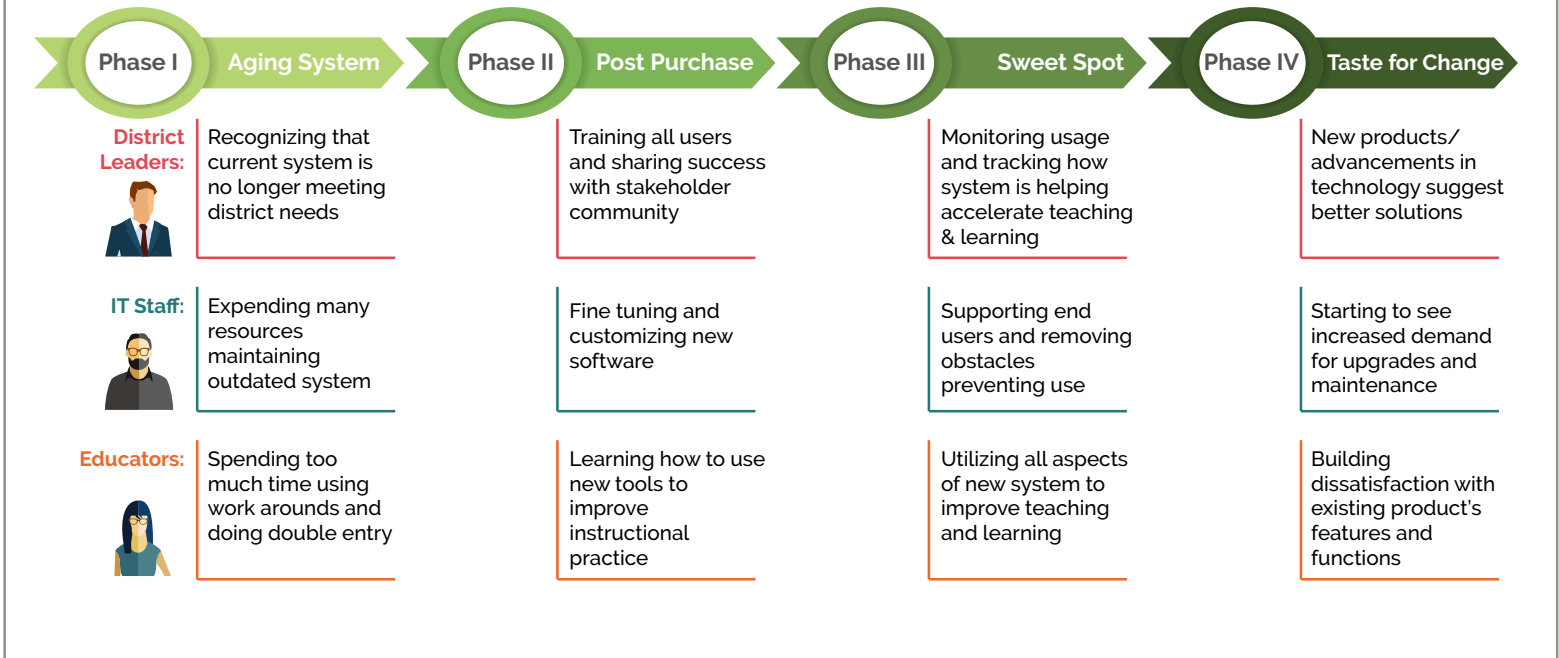
## Educational Outcomes

A fourth factor that often propels technological change in schools and/or districts is a desire from the superintendent, executive team, or school board to implement a new technology solution that they believe will positively impact **educational outcomes**. For example, one of the hottest new technologies in the market in recent years has been 3-D printers. Many district-level leaders were enthralled with them and wanted them immediately installed in their high schools, as well as middle and elementary schools.

Taken together, these four factors set the technological change process in motion. The following page includes a graphic that represents the typical change cycle for a new software product or system. The duration of each phase is dependent on the scope of the change.



# Typical Change Cycle



## CHAPTER 3

# Assembling the Change-Agent Team

CTOs often are the most knowledgeable about the new technology that will work best within their technology environment. As such, they often feel that they can and should have the authority to select and purchase the software. As much as the CTO would prefer to act independently, however these “lone wolf” decisions tend to result in either a failed change attempt or a weakened change.

For a technology change to be received, accepted, and used by leadership, all stakeholders—teachers, staff, and students—need to have a seat at the decision-making table. Tami McCrone, et al (2008) found in their study of change management in British primary and secondary schools that having a change management team allows for staff at all levels to “feel involved and engaged with change processes.” While principals and high-level administrators need to lead such teams, McCrone and his colleagues found that involving middle managers and teacher leaders in important decision-making roles on change management teams

creates much-needed inclusivity and confidence in the change process. This need to bolster staff confidence is particularly important for larger schools and for secondary schools, where staff are typically less confident about the school’s ability to manage change well.

A change management committee (CMC), consisting of no more than eight to ten members from a variety of stakeholder perspectives, is a group of people that challenges and champions the technology change and ensures its success and longevity. When selecting members for the CMC, CTOs should avoid inviting only those who are highly likely to support a technology change. Although these supporters may help to expedite the change, they may not be the most helpful resources. Conversely, CMC members who are known and **respected tech-savvy skeptics can, by pointing out weaknesses or gaps in the proposed change plans, increase the viability and adoption of the change and help the CTO avoid costly mistakes.**





CTOs should be sure to include executive, district, and school level staff as well as school community members including board members and parents on the committee. The tendency is to involve predominantly district level technology staff because they are the most knowledgeable about existing systems, but including non-technology district level staff may increase collective buy-in for the change.

Australian education scholar Gordon Stanley further cautions, “Those who volunteer for the role may not be those with the leadership characteristics to make the change work. They should have a track record of leadership and have a clear focus on data-driven decision making” (2006).

## “tertius iungens”

Sociologist David Obstfeld coined the term “tertius iungens” (2005) to describe individuals who use their positions of power to bridge gaps between people and ideas. (The term comes from Latin, meaning literally “the third who joins.”) Simply put, the larger the individual’s professional network, the better that individual will be able to push an organization toward innovation. Successful CTOs should take the role of tertius iungens on a CMC, linking the various committee members, spreading information, and facilitating interactions between the parties involved.



Once the CTO has established a fully comprehensive Change Management Committee and explained the need for the expected outcomes of the change, the first order of business is to involve the CMC in the software selection and purchase process.

## Selecting the New Software

The CMC members should sit in on product demonstrations and vendor calls whenever possible. The CMC also needs to understand exactly what will be purchased, the services the vendor will provide, and the district's role in the implementation. The CTO and CMC should develop a shared understanding of all aspects of the change, from software selection through implementation and training. This fundamental shared understanding will sustain the change whenever challenges appear.

### CMC should know:

- ☑ what is being purchased
- ☑ the services the vendor will provide during and post implementation
- ☑ the district's role, specific tasks, and responsibilities before and during implementation
- ☑ resource and time commitments for implementation



### **CAUTIONARY EXAMPLE:**

Failing to involve all the necessary stakeholders in the decision-making process can have negative consequences for school leaders. One illustrative example is when a change leader was charged with implementing formative quarterly benchmark assessments but unintentionally failed to involve the manager of the district's print shop. The students were going to use paper tests and bubble in their answers on personalized answer documents that would be scanned into an online assessment management system. However, the change leader was completely unaware of the lead time required by the manager to print each assessment, get them proofed by the content area directors, and run the print jobs. Also, the change leader had not considered how much paper and ink the print shop would need to purchase and have delivered in time to run the assessment print jobs.

The print shop manager also needed time to plan for the delivery of the test booklets and answer documents to 28 schools, such that they would be available for secure distribution during the designated testing window. Ultimately, the print shop manager needed to purchase an expensive piece of equipment to ensure that he could get all of this extra (unplanned) print work done. His role in the change was monumental, and he was mistakenly left off the list of stakeholders.





## CHAPTER 4

# Getting Staff to Buy In to the Change

The typical approach taken by CTOs is outlined in the following steps:

1. Select the software.
2. Determine the cost of the product.
3. Locate the budget to finance the solution.
4. Purchase the product.
5. Implement the product.

One of the first jobs the CMC must tackle is to figure out which of the district's human resources will be affected by the change and how and when these employees will be impacted. Next, it is essential that the CMC determine how people in each role will benefit personally from the change.

This directive may have some scratching their heads, but research has shown that for a change to be successful (particularly in the case of technology staff implementing a difficult or complex change), **stakeholders need to know how the change will benefit them in their job.** CTOs need to lead the CMC in their examination of all roles to determine the degree to which the change will allow people to be more effective, efficient, and ultimately, better at their jobs.

CTOs should examine each level of the CMC team to determine the impact and benefits brought about by the proposed change. These benefits must be communicated early and often during the change process.



## Marshaling Resources Needed for the Change

In addition to figuring out how the change impacts the human resources in the district, the CTO should determine the financial resources needed to manage the change successfully. Each CMC member, however, should be prepared to explain the source of revenue for the change and where the change appears in the budget (or multiple budgets). CMC members should also be able to articulate the detailed payment information included in the purchase contract. The financial plan for the change should be shared with the school board, so they are aware of the coming change and understand how it will be financed. This is critical information for skeptical constituents.

Finally, the CMC should map out the high-level steps for the change. This project management plan should include a timeline with completion windows for key aspects of the change. The CTO and the technology team should have the most input on the content of the map, as their expertise and experience are required to ensure a successful change.

### The Case of the Budget Roadblock

Taking the time to educate the school board on the need for the change, the purpose of the change, and the impact to the human and financial resources throughout the district is critical. During a school board meeting where the board was expected to approve the first draft of the budget, one of the board members created a major roadblock for the purchase of a learning management system (LMS). The budget process was stalled because one board member firmly believed that students should learn from their teachers in the classroom using traditional “chalk-and-talk” approaches and was opposed to learning that required students to use the internet for projects and communication. She was fearful of technology in general, particularly in the classroom. Had the superintendent or CTO taken the time to meet with this board member individually and early in the change management process to address her fears and explain the safety precautions that would be taken to protect students, the purchase would likely have been approved and the budget process would have gone much more smoothly. A.J. Schuler, a leading researcher in organizational management, advises that “a little good diplomacy at the outset can stave off a lot of resistance” (2003).



Change





## CHAPTER 5

# Communicating for Successful Change

A hallmark of a successful and lasting educational technology change is the CTO providing the “why” and “what” of the change, giving autonomy to the district and/or school technology team to determine how they would execute the change. So often, CTOs do a wonderful job creating an implementation timeline utilizing sharp technology tools to track progress points and key deliverables. They also work with the vendor by following the recommended guidelines and steps. However, this information is not always communicated to all stakeholders. This lack of communication surrounding expectations for deadlines and how each step fits into the larger timeline can quickly derail a technology change initiative.

After conferring with school administrators who had successfully managed various large-scale changes, McCrone, et al (2008) learned that leaders had to both communicate with and involve staff at all levels

of the school to a much greater extent than they had originally thought necessary. In a change management scenario, more communication is always better.

Early in the sales process, the CTO and CMC need to ask questions about the time investment required by the district. The vendor typically shares estimates of time requirements for each step. These estimates assume that district staff members have been assigned to the implementation, that the staff members possess average technology skills, and that they are committed to staying engaged with the implementation through to the end. A consistent problem emerges when there is a miscommunication regarding the time required for implementation. If the change management leader discovers that he or she does not have adequate time in his or her regular workweek schedule to devote to keeping the change on track and on time, the change can be compromised.



In a change management scenario, more communication is always better.

Technology staff and end-user engagement come from the CTO providing stakeholders with answers to the following five questions:

- 1 What is in it for them?
- 2 What is expected from them?
- 3 What is the reason for the change?
- 4 What are the expected outcomes from the change?
- 5 What is the timeline for the implementation?

For example, a suburban district with fewer than 5,000 students was going through the process of implementing a new SIS. The district had never had a SIS before, so the superintendent and district leaders were especially excited and ready to start their implementation right after the holidays. The supervisor of technology was charged with implementing the system and started working with the vendor implementation team immediately. However, the supervisor quickly realized that he would need to work over the summer to do all that was needed to get the new SIS to be operational for the opening of the next school year. He also had to work long hours researching and working with the division's data to prepare it for importing into the SIS. This smart, knowledgeable employee became disengaged because the implementation expectations for his time and work schedule were not made clear to him when he was tasked to lead the change.





## Two Essential Elements to Include in the Communication Plan

**TRANSPARENCY** should drive the stakeholder communication plan. The human ego drives a tendency to cover up mistakes and failures. However, a lack of transparency regarding the **purpose, process, and timeline for change** typically leads to failure in change management, especially for districts and schools that have already experienced tremendous change.

For an error- and setback-free implementation, change leaders should prepare stakeholders for the likelihood of hiccups along the way. End users should be aware that technology implementation is complex and will take time to get right. CTOs should let constituents know that the new system will not work perfectly on the first day or maybe even in the first week or month. At the same time, change leaders should assure all those involved that with each passing day, there will be improvements, not only through the end of the implementation, but also throughout the lifetime of the product.

**CONSISTENCY** is the other linchpin of the stakeholder communication plan. The CTO and CMC should create a plan that communicates information to all stakeholders frequently enough so that they regularly receive new information—good and bad. Stakeholders should know when to expect updates on the change in order to avoid unwanted speculation regarding the implementation. The tone of the communications should be positive and contain easily understood language (non-“tech talk”) explaining implementation benchmarks. Schuler encourages change leaders to **“start by sharing small, visible wins”** to inspire confidence among constituents.





## CHAPTER 6

# Using Best Practices in Implementation

In an ideal scenario, the CTO adheres to the agreed-upon implementation timeline and uses technology tools to track progress points and key deliverables. The CTOs work closely with the vendor(s) and follow the recommended implementation guidelines and steps. Although it is typically the technology staff members who do the time-consuming, nitty-gritty technical work of the implementation, the CTO should arrange for technology staff to meet regularly with the previously identified stakeholders to verify critical implementation decisions. The CTO should not make critical implementation decisions without feedback from the CMC—and **neither the size of the district nor its degree of technical expertise change the need to validate these implementation decisions.**

For example, if a district data manager creates report cards in the new student information system, principals and teachers should have the opportunity to provide critical feedback to the CTO. Whereas the data manager has the technical skills to create the report cards, they may not have the appropriate professional-educator knowledge to determine what should be included in or excluded from the report cards. Parents and students are also great sources of feedback and verification on the way the report card looks and how it conveys information about learning.





Technology professionals may resist having their work validated by members of the CMC. However, setting clear expectations and timelines for a validation process tends to alleviate any stress and helps them to appreciate the value of getting feedback from stakeholders.

CTOs working in a K-12 district and/or school should keep in mind that the implementation process may need to be tweaked for different divisions. Primary schools and secondary schools tend to operate differently: Claire E. Baker found that the organizational structure of the typical high school into content-area departments creates a system with multiple subunits with often distinct “goals, resources, and knowledge bases” (2012). While this phenomenon of “loose coupling” is, in many cases, useful at the secondary level, it can at times be problematic when a change in practice is expected en masse.

A review of the literature from Dean L. Fixsen, et al (2005) shows that passive techniques of information diffusion (emails, handouts, presentations in which participants sit and listen) tend not to translate into actual implementation. Simply disseminating information does not necessarily yield the desired change outcomes. If CTOs hope to see their proposed changes in use, they should capitalize on the incredible power of peer influence. The work of Dirk Schneckenberg (2009) and D.A. Georgina and C.C. Hosford (2009) suggests that teachers are much more likely to learn technology (and teaching methodologies that employ those technologies) from their co-workers.

**Instead of traditional methods of teacher training, CTOs should consider creative and interactive methods that rely on the shared knowledge of tech-savvy early adopters among the staff.**



## CHAPTER 7

# Building a Culture of Change

One of the jobs of the CTO during a change is to note challenges and problems staff are facing in attempts to execute the change. The CTO should take swift action to remove impediments so that staff and the CMC know that they have the support and backing they need from their leader to implement the change successfully. Identifying patterns of failure or barriers that recur is a way to improve the change process over time and proactively avoid rough patches.

The CTO is the change leader and should encourage problem solving vs. problem finding. Sometimes the CMC, stakeholders, and end users can get into a rut complaining about what is not working rather than actively seeking solutions to solve the problem. If problem solving is established as a core component of the change management process, implementation will maintain and even gain velocity.

If staff can learn to equate failure with learning, a culture of change will develop and prosper. When staff fear recrimination for failure, resistance to change will persist. The CTO can serve as a catalyst for a culture of change by seizing opportunities to publicly show failures as learning experiences and opportunities to learn what did not work this time but what might work the next time. Choosing to make failures transparent and presenting what was learned from failures to the larger organization are the pillars upon which a culture of change is built and supported.

All stakeholders involved in the change process need to recognize that adapting the original design is not only necessary, but oftentimes a hallmark of success. Baker, in her case study of a Michigan high school's attempts to integrate educational technology, wrote that "even the best-laid plans for integrating educational technologies are typically adapted to fit in with the unique culture and organizational context of a particular school." (2012)



# Works Cited

- Baker, Claire E. (2012). Bridging the Gaps: A Case Study on the Implementation of Educational Technologies in High Schools (Doctoral dissertation).
- Duke, D. (2015). Leadership for Low-Performing Schools: A Step-by-Step Guide to the School Turnaround Process.
- Fixsen, D.L., Naoom, S.F., Blase, K.A., Friedman, R.M. & Wallace, F. (2005). Implementation Research: A Synthesis of the Literature. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231).
- Georgina, D.A. & Hosford, C.C. (2009). Higher education faculty perceptions on technology integration and training. *Teaching and Teacher Education*, 25, 690-696.
- McCrone, T., Teeman, D., Featherstone, G., Rudd, P., Ahmad, S. & Thompson, H. (2008). Change Engagement Comparative Study: Final Report. Slough: NFER.
- Obstfeld, D. (2005). Social networks, the tertius iungens orientation, and involvement in innovation. *Administrative Science Quarterly*, 50(1), 100-130.
- Orlando, J. (2014). Veteran teachers and technology: change fatigue and knowledge insecurity influence practice. *Teachers and Teaching*, 20(4), 427-439.
- Ruiz-Primo, M.A. (2006). A multi-method and multi-source approach for studying fidelity of implementation (CSE Report 667). National Center for Research on Evaluation, Standards, and Student Testing. Los Angeles: Author.
- Schneckenberg, D. (2009). Understanding the real barriers to technology-enhanced innovation in higher education. *Educational Research*, 51(4), 411-424.
- Schuler, A.J. (2003). Overcoming resistance to change: Top ten reasons for change resistance. Online article. Accessed from: [www.SchulerSolutions.com](http://www.SchulerSolutions.com).
- Stanley, G. (2006, September). Seven Principles for Change Management. Paper presented at the Sustainable Leadership in Education conference at the University of Sydney, Australia.