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Abstract

One of the latest trends in education is 'flipping' the classroom. The premise behind this form of blended learning is to reframe the role of the teacher in the classroom, to shift the focus towards the student as the constructor rather than receptor of information. As such, a stepwise framework for flipping the classroom is presented in this paper, serving as a starting point for training practitioners interested in how to flip the corporate classroom.

Introduction

One of the latest trends adopted across most levels of education in the United States is to create a more engaging learning experience through the *flipped classroom model*. The intent behind this form of blended learning is to reframe the role of the teacher as more of a *guide on the side* versus *sage on the stage*. This model shifts the focus towards student construction of knowledge rather than the passive transfer of information (Tucker, 2012). This inverted strategy allows learners to facilitate their own learning experience using various resources outside of the classroom,

freeing up valuable class time for asking questions and receiving guidance (McGee & Reis, 2012). Complementary instructional resources are usually in the form of digital learning activities such as videos, discussion boards, and online tutorials (Smith & McDonald, 2013; Meyer, 2010; Roehl, Reddy, & Shannon, 2013). In short, the focus is on the learning and not the teaching.

Based on the design of flipped instruction in university classrooms, parallels can be drawn to help develop flipped training in corporate settings. If "the workplace of tomorrow is the classroom of today," then tomorrow's employees will already be accustomed to active learning, mobile devices, and flipped classrooms (Thoms, 2013, p.6). The use of blended (synchronous and asynchronous activities) and flipped (inside and outside of the classroom activities) learning environments, in combination with instructional technologies, such as learning management systems (LMSs), video repositories, and mobile devices, can create new, active learning spaces where employees can practice their skills before applying them on-the-job.

Origins of the Flipped Classroom Model

Historically, the flipped classroom model has its roots in what is known as the Thayer Method, a model of teaching and learning implemented at West Point in 1817 by Superintendent Sylvanus Thayer (Shell, 2002). Thayer's method to invert the classroom experience promoted a learning environment where learners were responsible for their own learning and were required to come to class prepared. In this approach, instructors facilitated learning both in and out of the classroom. Lecture was discouraged in favor of active, collaborative activities. In-class work provided opportunities for learners to demonstrate mastery over the subject matter. Throughout this process instructors gave frequent assessments with formative feedback.

This *inverted classroom* was then proposed by Lage, Platt, and Treglia (2000) for university-level economics courses. Although their study showed positive attitudes on the part of both faculty and students towards the inverted model, this new technique did not initially catch on with the rest of the academic community. The more currently known flipped classroom model of instruction started with secondary science teachers Jonathan Bergmann and Aaron Sams (2012), who decided to start recording their live lectures for students who missed class. The popularity of the instructional videos grew proportionately as all students, not just those who were absent, seemed to appreciate being able to review information at home while completing their homework assignments.

A growing number of university instructors have also embraced the flipped classroom instructional model (Last, 2012). Despite the concerns about the mechanics of the flipped classroom, educators' attitudes about their experience are generally positive once they have made the switch (Bergmann & Sams, 2012; Fulton, 2012; Herreid & Schiller, 2013; Tucker, 2012). Similarly, students seem to appreciate the flexibility the flipped model provides them (Gilboy, Heinerichs, & Pazzaglia, 2015; Abeysekera & Dawson, 2015). A flipped classroom, made possible through technology, allows the instructor to spend more time with each student, encouraging them to reach higher cognitive levels of learning (Steed, 2012).

Why Flip the Corporate Classroom?

As described, the flipped classroom model is a unique approach that is gaining momentum in university classrooms. One of the driving forces behind this technique is to improve retention of learned information by making it more personally relevant to the individual learner (Bergmann & Sams, 2014). Improved retention is particularly important in workplace settings, where professional development is directly tied an employee's job duties. By flipping the corporate training classroom, employees could potentially have access to consistent, just-in-time information, in a low-stakes setting that allows them to maintain maximum productivity (Thoms, 2013). Because the flipped approach relies on learner efficacy and self-inquiry, it is an ideal training method worth considering for adults in the workplace (Smith & McDonald, 2013). However, there are very few resources that depict how learning professionals in the workplace might consider flipping his or her classroom instruction. Hence, the purpose of this article is to propose an approach that training professionals can follow in pursuit of flipping a class.

The Flipped Training Model

What follows is a six-step guide (Figure 1) that workplace practitioners can use to develop and deliver instruction using the flipped classroom model, called the Flipped Training Model. This step-by-step approach is based on three practical principles borrowed from the learning sciences: Bloom's Taxonomy, Keller's ARCS Model, and Active Learning Theory. Careful preparation for converting from traditional to flipped classroom and application of some simple instructional design practices could improve overall adoption of the flipped classroom model in workplace settings. Potential results include improved learner engagement, participation, and satisfaction with the flipped training experience, as well as active learning that leads to improved retention and transfer of new knowledge and skills to the job. For workplace learning professionals, careful application of these steps translates to workplace culture and practices that support flipped classroom instruction, and greater efficiency in the design, delivery, and maintenance of flipped training.

Insert Figure 1 About Here

Step 1: Get Buy-In!

Before developing a flipped learning experience, it's important to review the proposed instructional model with a project sponsor, key stakeholders, and potential learners. Gathering feedback and input from a sponsor and stakeholders will ensure that the training team addresses potential reservations or misconceptions about the instructional method upfront. It also provides a platform for discussing the environmental conditions that will be necessary to support the adoption of the Flipped Training Model so that both the learners and organization derive maximum value from this new instructional method. It is vital to inform stakeholders early of the benefits of the flipped classroom, such as reduced time away from work, improved retention, and increased application time to improve transfer of learning, all of which translate to bottom-line benefits for the organization. Gaining stakeholder buy-in should also be used to set clear expectations for their role, which includes acting as a champion for the consideration of a new approach. Soliciting sponsorship can significantly improve the likelihood of a successful adoption and follow-through. This is achieved by:

- Communicating the impacts of the training strategy to managers, supervisors, as well as the learners themselves

- Considering how critical it is for the various levels of management to provide employees with the time for training

- Devising incentives for employees to commit the required time and attention to their learning.

- Before designing the instructional experience, training professionals should also engage potential learners in the process to understand any reservations they may have. This will help those charged with developing and facilitating the instruction to proactively build communication plans and course designs that eliminate or reduce barriers to learning. For learners, potential obstacles include:

- Being unfamiliar with the flipped classroom format

- Having concerns about the duration of the program and the time commitment involved in learning outside of the classroom

- Having anxiety over deadlines to complete pre-class activities in a set timeframe

- Being unfamiliar with how the new format will translate to his or her job.

To fully appreciate potential barriers and prepare adequate mitigation plans, it is critical to spend time with potential learners upfront to gather their expectations and attitudes towards a flipped classroom learning experience. This front-end analysis with a sponsor, stakeholders, and learners will inform the instructional plan and minimize prospective concerns and potential barriers.

Step 2: Consider How Learners Will Access the Instructional Content

Before doing anything else, training professionals must determine how to deliver the learning content that will precede and supplement the classroom experience. In today's workplace, most formal training is accessible through a Learning Management System (LMS) or web-based tools that allow learners to access content before, during, and after formal instruction. In many organizations, an LMS can be set up to distribute the content that learners need before, during, and after class, as well as track and manage their progress through the instructional content. As an alternative to using an LMS, websites, wikis, blogs, or social media sites can be used to manage and disseminate instructional content. Learners should have one resource to turn to when they need to access any information related to the training. This will reduce cognitive load and allow learners to focus on learning the content rather than finding materials. The systematic management of the instructional content also serves an important function in structuring the learners' experience. Particularly, when training professionals use these systems to provide clear instructions on how to consume the content, list important deadlines to meet, and provide working links to videos, blogs, articles, web resources, and files that learners need in order to complete instructional activities. How training professionals organize and distribute the content is just as important as the careful curation of content and construction of relevant and meaningful instructional activities. The organizational schema used to deliver the content serves an important function by scaffolding the learner's experience with a flipped classroom.

With the plethora of online learning resources available today, within and outside of organizations, course designers are not required to be technology experts in order to curate meaningful instructional content that prepares learners for their classroom experience or supplements what they are practicing in the classroom. Udemy and Lynda.com are fee-based learning platforms with excellent video course content on a variety of topics, whereas YouTube and Coursera provide a variety of learning resources for free. There are also free and fee-based niche learning platforms that offer books, videos, labs, courses, and other structured learning experiences to develop job-specific skills. To learn new software and desktop applications, most companies now have well designed and comprehensive tutorials on their websites, which are free to users.

Industry-specific support tools that practitioners are likely to use on-the-job should also be considered as possible instructional content. For example, in health care, UpToDate is an evidence-based clinical decision support tool designed to help healthcare practitioners during patient care treatment.

Incorporating the exploration and use of industry-specific instructional tools like UpToDate, when tied to course learning objectives, is an effective way to provide support for learners outside of the classroom given the flipped classroom instructional method. In particular, exploration of online learning as a part of pre-work is a very effective way to engage learners by exposing them to industry-relevant tools, resources, and applications that they can use at their own pace.

At the same time, when considering using technology to deliver content, check with your IT department to determine what data privacy policies exist for your organization. In cases where learners will use company equipment to access the instructional content, some resources might be blocked. To help make access easier, use settings that can be changed to *private* or *unlisted* to prevent web resources from being blocked. Also, keep in mind that delivering content through technology in a digital format does not assure positive learning outcomes (Aworuwa & Nkoge, 2007; El-Ghalayini & El-Khalili, 2011; Lightle, 2010). Rather, technology should be used as an active learning tool that allows learners to digitally explore and engage with the content that supports the learning objective of the course. Other possible barriers that course designers should plan for include learner's access to the content outside of the classroom, and/or lack of familiarity with the means to access it, and platform incompatibility with the organization's available technological infrastructure. These barriers are best addressed with upfront planning with the IT department along with instructional coaching to help learners to overcome these types of potential obstacles.

Step 3: Design Incentives that Prompt Learners to Prepare Outside of Class

For learners to truly take advantage of the hands-on practice and application opportunities available in a flipped learning environment, they must come to the classroom prepared (Smith, 2015; Balan, Clark, & Restall, 2015). When the flipped classroom approach is brand new for potential learners and the organization, it is important to clearly

communicate participation expectations with learners. A communication plan that is integrated into the instruction and led by the trainers is critical to getting the right level of commitment from learners. Communications should include critical information that answers such questions as:

- Why this training is important?
- How a flipped classroom works?
- What direct benefits will learners receive?
- What learners are expected to do to succeed?

Learner expectations should also be set and reinforced by the parties sponsoring the training, such as organizational leaders and the learners' managers. It's also useful to establish regular checkpoints to monitor learner progress. Checkpoints are opportunities to provide personalized encouragement, recognize learner effort, and remind learners where they should be in their learning journey.

Course designers can further encourage learners to participate in pre-work activities by designing stimulating and thoughtful pre-work that is relevant, moderately challenging, and involves a variety of tasks (i.e., reading, watching, writing, reflecting, etc.). In keeping with the motivational principles of Keller's (1987) ARCS Motivational Model, the course design should give learners some control over managing their pre-work. This can be accomplished by providing flexibility and options, such as clearly stating *required* and *optional* learning activities, or giving the learner choices, such as "pick one of these items to complete before class." Course designers should strive to make the classroom portion of the learning experiential and clearly tied to pre-work. The classroom is the place to reinforce learning with individual and group activities where learners explore learning content more deeply, through processes such as getting feedback on a work product from peers. For skill building that requires demonstration, practice, and feedback, these should be central to the classroom experience.

To further structure the self-directed learning experience, Nederveld and Berge (2015) recommend using a system of training pre-requisites to encourage completion of pre-work activities. Under this system, learners must complete required activities before they can register for the in-person component of the training. An LMS can be used to implement all of the following strategies: creating systematic messages, offering choices, managing registration, scheduling classroom events, and monitoring learner progression, to name a few. However, it is still important to keep communications and learner checkpoints as personal and interactive as possible to reinforce importance, relevance, and value of the content. Additionally, in some systems, recognition in the form of digital badges, certificates, or certifications can be integrated with the system to provide formal acknowledgement of progress through the course and/or recognize successful completion of the training. Incorporating these recognition elements potentially builds learners' confidence and sense of achievement (Costley, Rhodes, & Shiel, 2007; Wu, 2003). For adult learners, the real payoff of learning is the sense of accomplishment, self-confidence, and the intrinsic value they derive from sharing their knowledge and experience with others (Keller, 1987). So, consider ways to capitalize on these adult learning principles.

Step 4: Assess Learning in Multiple Ways

As with any good instruction, course designers should include assessments to measure the creation of new knowledge or skills. Separate from incentives, it is helpful to measure what is being learned inside and outside of the class. The measurement system helps the learner see and quantify his or her own learning accomplishments. Assessments also help quantify the value derived from the flipped classroom model, which can be shared with the training sponsor, stakeholders, and learners' managers. Assessments can be designed in multiple ways, but in the workplace, the most effective assessments mirror how new knowledge and skills will be used on-the-job (Norcini & Burch, 2007; Bar-On & Parker, 2000).

As suggested by Fink (2003), using the *Backward Design* approach for developing significant learning experiences (creating the assessment plan and items before creating the actual instructional content) will help create a tighter alignment between the desired learning outcomes and how they are measured. Furthermore, formative assessments should be aligned with the practical, job-relevant activities that learners completed during class. This may include assessing, with a scorecard or checklist, how learners demonstrate key behaviors, perform tasks, and/or demonstrate

critical thinking skills by solving a problem or creating a work product. Assessments are a valuable measure of learning outcomes when they are directly aligned to skills the learner is expected to demonstrate on-the-job. In addition to providing a clear measure of the business value of the training itself, assessments also give learners the opportunity to achieve something during the learning event. This immediate feedback helps learners build much needed confidence to continue applying new knowledge and skills on-the-job, which in turn supports transfer of learning. Course designers can further reinforce the sense of accomplishment and value that learners derive from the training experience by having learners use new software, tools, frameworks, and/or best practices during class that they will continue using on-the-job.

Step 5: Develop Flipped Class Materials

Similar to traditional classroom instruction, flipped classroom materials include things such as facilitator guides, participant guides, handouts, and job aids. First impressions might lead to thinking that there is a difference in the class materials for a flipped classroom. To the contrary, these materials are very similar with the exception that, in the classroom, learners will be *doing* and facilitators will be *directing* activities rather than delivering content. This situation lends itself to more opportunities to employ active learning techniques during the classroom sessions to help cement the acquisition of new knowledge and skills.

Meyers and Jones (1993) define active learning as "providing opportunities for students to meaningfully talk, listen, write, read, and reflect on the content, ideas, issues, and concerns of an academic subject" (p. 6). Because the flipped model of learning opens up class time for active learning, course designers must plan to fill that time with activities that allow students to analyze and reflect on the content. Active learning strategies allow students to explore new content using critical thinking and analysis skills that lead to deeper understanding (Bonwell & Eison, 1991). These scaffolded and structured activities provide students the opportunity for creativity and exploration, while still being in a guided framework led by the facilitator. As described by VanGundy (2005), active learning strategies that can be implemented in a flipped training classroom include activities such as discussions, think-pair-share activities, role-play, soft-skill simulations, and hands-on practical applications such as labs, games, and simulations for building technical skills. Whatever strategy or activity is chosen, for it to be considered active learning, it must "teach students to think critically [and] must therefore be the type of activities that are designed to mentally stimulate and engage thinking in a relevant context" (Nelson & Crow, 2014, p.79). Additionally, technology tools allow for more traditional activities and assignments, such as discussions and role-plays. One of the benefits of integrating technology tools is the ability to create media and collaborative work. Incorporating teach-back or report-out activities holds learners accountable for both participating in activities and for processing the information being presented to them (Angelo & Cross, 1993).

While many workplace training professionals may want to begin using the Flipped Training Model in their classrooms to increase learner-centered interactions, they may be unsure of where to start in the design of their classes. There are numerous instructional design models that will help construct effective instructional solutions (for example, Merrill's First Principles of Instruction (2002) and Gagne's Nine Events of Instruction (1985)). For those new to the process of designing instruction, Bloom's Taxonomy (1956) is a good starting point since it can be used to define course learning objectives and the intended outcomes of the course that need to be met through pre-work, classroom, and post-work activities. In any case, the creation of any instruction must start with defining the learning goals. Setting measurable learning goals will assist training professionals in verifying that the learners are capable of demonstrating the desired skills and behaviors after the intervention. Defining learning goals can be made both simple and measurable through the use of an iteration of Bloom's Taxonomy (1956).

In 1956, Benjamin Bloom classified educational objectives into an ordered structure that spanned three domains: cognitive, affective and psychomotor. His cognitive domain contains six categories that build on each other and increase in complexity, from Knowledge (simple recall of factual information) to Evaluation (proposing various solutions to problems and selecting and defending the best one). These categories have become the basis for developing learning outcomes in many educational settings (Gray & Waggoner, 2002; Thompson, Grove, Luxton-Reilly, Whalley, & Robbins, 2008; Weigel & Bonica, 2014). The taxonomy was revised by Anderson and Krathwohl (2001), who changed the names of each cognitive category from nouns to verbs, and then rearranged the categories so the "Creating" category (formerly the Synthesis category) was shown as the highest cognitive skill level. Within each category are keywords in the form of verbs that can be written into learning objectives that will build the skills needed to advance to the next cognitive level.

The popularity and utility of Bloom's in instructional design ultimately led Andrew Churches to develop a version of Bloom's Taxonomy for 21st-century learning (Churches, 2008). In 2008, Churches put forth Bloom's Digital Taxonomy based on Anderson and Krathwohl's Revised Taxonomy (Bishop & Verleger, 2013). The Digital Taxonomy uses Web 2.0 tools as a basis for using technology tools to achieve learning objectives. Terms like blogging and podcasting show that the activity rather than the tool support the cognitive skill level.

Using Mager's (2004) framework for developing learning objectives, in concert with Bloom's Taxonomy, can aid in developing a curriculum in which students can demonstrate mastery of desired skills and behaviors, using technology as a vehicle. Mager (2004) proposed that well-written learning objectives should have the following three characteristics:

1. Performance – the objective should state what the learners should be able to do.

2. Conditions – the objective should state the conditions (if any) under which the learner should be able to perform the desired skills or behaviors.

3. Criterion – the degree to which a learner must perform the desired skills or behaviors in order to declare those skills or behaviors mastered.

An example of a learning objective using Mager's framework from a call center work environment is: *Given a simulated customer call for support* [condition]*, the call center representative asks probing questions* [performance] *so they can correctly identify the customer's specific issue* [criterion]. Table 1 shows an example of pre-class and in-class activities mapped to learning objectives and to each level of Bloom's Revised Taxonomy. As clearly depicted in the interactive website by Heer (2009), learning objectives are matched with corresponding activity verbs on Bloom's Revised Taxonomy to spark the activity needed to obtain that learning outcome.

Insert Table 1 About Here

Another organizer that can be useful in the course design process is an outline of the sequence of in-class and out-of-class activities. A method affectionately called the Castle Top diagram, as shown in Figure 2 which is based on Fink's (2003 p. 27) *"Castle Top" Template for Creating an Instructional Strategy Figure*, can help plan the instructional activities for each in-class and out-of-class segment of time. This method is particularly effective where "the goal is to create a sequence of activities that build on each other" (Fink, 2003, p. 27).

Insert Figure 2 About Here

Step 6: Prepare the Physical Space

Managing all the classroom activities and monitoring the participation and engagement levels during a session is another important skill that training professionals need to master. Before a class session, there are things worth considering to help create an effective learning environment. First, think through what activities you want to learners to complete for each class session. If there are plans for group activities, organize the classroom so that learners will be able to easily work together in a shared workspace. If the learners will be moving around the room, leave enough room between work areas for movement. At the same time, you want to set the room up in a way that permits the trainer (or trainers) to cover a lot of ground in the classroom. It is important to keep in mind that the flipped approach inherently leads to a lot of questions from the learners, which is good. Therefore, the trainer(s) will want to be mindful of how the room is setup to be able to efficiently touch base with each learner (or group if doing collaborative work). Additionally, it is helpful to prepare a set of prompting questions designed to stimulate learning that aligns with the pre-work. Good prompting questions usually include eliciting different perspectives, checking for understanding, and provoking learner participation. Having prompting questions can help with maintaining the flow of instruction and keeping engagement levels up. Lastly, finish each classroom session by recapping the major takeaways to affirm key

concepts and to set up the next session. In addition to reinforcing the learning goals, it is effective to solicit feedback from the learners on what worked and did not work during the session. Allowing them to share insights on how they experienced the session will help determine future instructional activities.

Benefits and Challenges of the Flipped Model

Flipping the corporate classroom brings with it a series of both benefits and challenges for training professionals and the learners. The benefits of deploying a Flipped Training Model for the learner include giving them more control over when and how they consume learning content, using classroom time for hands-on practice and application activities under the direct supervision of an expert, and reducing travel and time away from work. For the learning professional, benefits include shorter classroom engagements that minimize lecture and increase hands-on practice, which translates into greater opportunities for immediate coaching and feedback, improved transfer of learning, and training return on investment (ROI). The Flipped Training Model also enables course designers to use technology to support continuous learning by providing learners with 24x7 access to learning materials such as videos, blogs, wikis, websites, job aids, and other resources.

The benefits of flipping the classroom are numerous, yet so are the challenges. Unlike traditional classroom instruction, flipped classroom requires on-going learner engagement in a series of learning activities over an extended period. This introduces a new challenge for training professionals: keeping learners engaged during the entire learning experience, which includes self-directed learning, followed by classroom experiences that focus on the application of knowledge and skills. Motivating learners to engage in the entire learning experience, from completing pre-class activities to keeping pace with a live classroom experience, is crucial to achieving learning outcomes that deliver on the positive promises of the instructional approach for both the learner and the organization. Keeping learners actively engaged can be a real challenge, especially when training competes against deliverables, deadlines, over-scheduled workdays, travel, and/or other time-intensive work commitments.

In addition to these potential barriers to training, an organization's learning culture plays a significant role in the commitment employees make to regularly devoting time to their professional development. Cultural variables that can hinder employee commitment include insufficient time in the workday to learn and organizational leaders not placing a high value on continual professional development.

The Flipped Training Model also requires a substantial investment of time and resources on the part of the training professional to prepare both information materials and active learning activities, at least initially. Finally, the flipped corporate classroom places the onus of learning onto the individual learner. In order for the flipped environment to be successful, learners must prepare for the in-class work by reading, watching, or interacting with learning content prior to class. They also must be open to an active learning environment where they are not passively receiving information, but rather are engaging with the content in a new, and hopefully meaningful way.

Other Tips and Tricks for Flipping Your Classroom

When considering introducing the flipped classroom model for the first time, it is important to start small to maximize the chance for success and set the stage for future adoption of a new learning model. As with any change, it's important to gain support from key stakeholders in the organization. To maximize early learnings, consider targeting an existing course that is ripe for improvement, such as a week-long lecture-based course that's not currently achieving transfer of learning targets. Piloting some elements of a flipped classroom with a course like this provides measurable business value including reducing time away from the office, decreasing learners' cognitive load, and improving hands-on application and practice. During a pilot, be sure to solicit feedback from learners and their managers early and often. This can take on the form of asking for feedback using a short survey or interviewing learners and managers to gather their feedback. A pilot will provide valuable feedback from stakeholders that can be used to inform the overall implementation strategy.

Apply a similar approach when integrating new technology into the flipped classroom learning experience. For example, if the focus of the training is for learners to build competence using new desktop applications for information-sharing, such as using a social platform or document repository, instead of showing examples, ask learners to build an information repository using a prototype or structured job aid. Alternatively, one could provide learners links to self-help resources and examples that they can use to build their repository.

Lastly, because there is strength in numbers when taking on a task of this magnitude, consider creating a community of practice of other training professionals around the organization. This can be valuable for collaborating and learning from each other on what works (and what does not). As previously discussed, it is important to find champions within and around your organization.

Conclusion

Flipped instruction classrooms are becoming increasingly popular methods for increasing engagement in active learning strategies in classrooms. Considering the pervasiveness of instructional technologies, the flipped classroom is even more feasible to execute and implement, making this model fitting for corporate training environments. Once the decision has been made to use a flipped model in your training program, a learning professional can use our flipped training model checklist, as shown in Appendix A, to walk through creating a flipped lesson. Additionally, a Flipped Training Model Worksheet in Appendix B helps walk practitioners through the planning process.

Start slow by flipping one lesson or module, or a week's worth of instruction. Flipping the entire experience at once may prove frustrating to both course designers and learners. Beta testing the flipped training environment with learners who are highly committed is a good way to test out the new strategy and receive constructive feedback about the flipped environment.

Based on a review of the current literature detailing empirical evidence and proven practices for flipping classroom instruction of any type, the six-steps proposed in this paper have been instrumental in positive experiences of a variety of professionals. Instances where there were less than positive experiences flipping the classroom, one or more of these steps outlined were usually missed. Therefore, the authors look forward to testing and extending the six-step Flipped Training Model to better aid learning professionals wishing to deploy flipped classrooms in their organizations.

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Appendix A: Flipped Training Model Planning Checklist

Instructions: Use this checklist as a planning and execution tool to convert a traditional classroom learning event into a flipped classroom instructional experience. The intended audience for this checklist is course designers, instructors, and/or other learning professionals involved in the design, development, and implementation of learning solutions. This checklist is based on the six steps and best practices introduced in *Flipping the Corporate Training Classroom.* Note: Complete the six steps and tasks in the order listed in this checklist.

Step 1: Get Buy-In!

The purpose of this step is to ensure that key stakeholders are aware of the proposed project to convert training to a flipped classroom experience, and that all potential reservations are mitigated and addressed by the learning team.

Mark off each task once complete in the order listed:

- ☐ Identify a project sponsor(s)
- ☐ Set expectations with project sponsors regarding their role in championing the project
- ☐ Gather feedback and requirements from potential learners
- ☐ Document concerns and obstacles for the learning team to address during solution design
- ☐ Secure final approval(s) to proceed with the flipped classroom project

Step 2: Consider How Learners Will Access Instructional Content

The purpose of this step is to identify the core systems that learners will use to access instructional content before, during, and after classroom instruction.

Mark off each task once complete in the order listed:

- ☐ Select the system(s) that will be used to organize learning content as well as provide directions and instructions for using learning content
- ☐ Identify the primary resources (websites, blogs, eBooks, etc.) that will be used to curate online learning resources, including any industry-specific learning tools
- ☐ Estimate approximate training spend for recommended fee-based learning resources and gain approval (if necessary)
- ☐ Confirm all recommended learning resources are accessible via company network and identify any specific privacy settings required

Step 3: Design Incentives that Prompt Learners to Prepare Outside of Class

The purpose of this step is to ensure that learners are adequately prepared to participate in hands-on practice and practical application activities in the classroom and sustain their engagement throughout the entire learning experience.

Mark off each task once complete in the order listed:

☐ Develop a communication plan that reinforces expectations of learners, learners' managers, and includes planned checkpoints to monitor learner progress and offer encouragement

☐ Validate that pre-class learning activities are relevant, aligned with classroom learning objectives, and provide learners with choices

☐ Validate that classroom learning experiences promote active learning, support learning objectives, and reinforce pre-work

Decide if pre-requisite system will be used to determine learner eligibility to enroll in the classroom session(s)

☐ Determine how completion of learning activities and/or the learning program will be recognized and/or rewarded

Step 4: Assess Learning in Multiple Ways

The purpose of this step is to ensure that the new knowledge and skills acquired through the flipped classroom learning experience are measured and used to demonstrate the benefits of this instructional model.

Mark off each task once complete in the order listed:

☐ Validate that practice activities and tools used during the classroom experience are relevant to the knowledge, skills and tools that learners will use on-the-job

☐ Validate that formative assessments are designed to assess learners' demonstration of the core knowledge and skills that they will need to use on-the-job

☐ Validate that summative assessment are created to provide feedback to learner's and instructor on their grasp of the core knowledge and skills

Step 5: Develop Flipped Class Materials

The purpose of this step is to ensure that active learning techniques are used during classroom instruction to provide practical, relevant application of learning content and facilitate transfer of learning to the job.
Mark off each task once complete in the order listed:

☐ Develop learning objectives using Mager's (2004) framework or another framework of choice

☐ Use Bloom's Taxonomy or another framework to develop the learning curriculum, inclusive of pre-work, in-classroom instruction, and post-work

☐ Develop classroom activities that promote active learning and knowledge/skill application, such as role-plays, think-pair-share, simulations, games, etc.

☐ Select technology tools that will be used by learners to collaborate and/or demonstrate newly acquired knowledge/skills with others

☐ Develop all materials required to support the instructional experience, such as: instructor guide, learner guide, job aids, pre-work materials, post-work materials, assessments, digital content repository, etc.

Step 6: Prepare the physical space

The purpose of this step is to ensure that the classroom is setup to maximize the productivity of the in-person learning experience.

Mark off each task once complete in the order listed:

☐   Create a room layout schematic that will easily facilitate instructor and learner movement and facilitate collaborative as well as individual activities

☐   Validate the instructor guide includes sufficient questions and activities to activate prior learning (from pre-work) when introducing a new topic

☐   Provide feedback elicitation guidelines in the instructor guide to ensure learner feedback is captured during the in-class experience

Appendix B: Flipped Training Model Worksheet

In order to implement flipped training, there are a few planning steps to consider. Fill in the blanks with your session-specific information in order to plan your flipped training.

1. Develop clear and measurable learning objectives (including cognitive and behavioral objectives), based on Bloom's Taxonomy (Krathwohl, 2002).

   By the end of this lesson,

   - Learners will be able to _____
   - Learners will be able to _____
   - Learners will be able to _____

   Example: Learners will be able to perform the steps involved in preparing for and facilitating a behavioral interview.

2. Identify the learning resources learners need to access before coming to the in-person session. These resources will build foundational knowledge and skills that learners will practice in the classroom. Select a variety of digital resources (videos, blogs, articles, games, etc.).

- Examples, scenarios, case studies
- Instructional videos
- Games, quizzes, simulations
- Reading materials

Example: Before the workshop on Thursday, please watch instructional video #1 and read "Preparing to lead a behavioral interview".

Pre-class learning resources that learners need to complete prior to this session include:
- _____
- _____
- _____
- _____

Technology required to create pre-class learning resources:

- _____
- _____
- _____
- _____

   3. Specify how learners will need to interact with the pre-class activities.

- Prepare reflection questions
- Prepare worksheets or checklists
- Suggest other learning resources

Example: After watching instructional video #1, answer the video reflection question in your participant workbook. Ways in which learners will interact with the pre-class learning materials:

- _____
- _____
- _____
- _____

Technology learners will need to complete these activities:

- _____
- _____
- _____
- _____

4. Identify in-class activities that learners will complete. Let learners know if they need to bring or prepare anything before the session. The idea is to create an active learning environment where learners actively interact with content and the instructor acts as a guide.

- Instructions on how to prepare for class
- Lead-in questions for instructor
- Knowledge checks to activate learning
- Whole group discussion questions
- Group activities
- Individual reflection questions

Example: For Thursday's class bring your workbook, we will use the interview prep guide in your participant workbook to prepare for a mock interview.

Activities learners will complete during six-hour classroom session (in chronological order):

- _____
- _____
- _____
- _____

Technology learners will need to complete the in-class activities (if applicable):

- _____
- _____
- _____
- _____

5. Create the assessments that will measure learners' mastery of the learning objectives.

- Formative/Summative
- Challenging questions
- Interactive quizzes
- Skill demonstration

Example: Facilitate a mock interview with a candidate (group member 1) using the interview guide. You will be scored by an observer (group member 2) using the interviewer scoring sheet. Your interview will be recorded using a mobile phone so that you can debrief your scores with your group members.

Assessment(s) for this session:

- _____
- _____
- _____
- _____

Technology learners need to complete the assessment(s):

- _____
- _____
- _____
- _____

6. Verify that your assessments and activities align to the learning objectives. Do they allow your learners to demonstrate that they have achieved the learning objectives?

Two Pull Quotes

1. The constructivist, just-in-time nature of the flipped classroom, makes it ideal for corporate training settings.

2. Although the idea of the flipped classroom is not new and is extremely popular in K-12 and university settings, there are little to no articles discussing how to do this for corporate training.

Figures and Tables

Figure 1. The Six Steps of the Flipped Training Model.Figure

Figure 2. The Castle Top method planning instructional activities in and outside of class.Table 1

Table 1

Examples of course learning objectives with corresponding technology-enhanced pre-work and in-class activities.

Bloom's Revised Taxonomy Level	Learning Objective	Technology Tool	Pre-work Activity	In-Class Activity
Remembering	Identify the resources interviewers use to prepare for a behavioral interview.	Company Intranet	Review a list of preparation resources available on the company intranet.	In pairs, complete a timed scavenger hunt using the company intranet.
Understanding	Identify the benefits of conducting a behavioral interview.	Videos Internet	Watch Behavioral Interview Standards 101 (internal video).	Assign groups to research topics such as Equal Opportunity Employer, Interview Guidelines, etc. Groups conduct research and discuss findings. Facilitator leads class discussion to identify key benefits.
Applying	Describe how to prepare to conduct a behavioral interview.	Blog Intranet	Read blogs by Forbes, LinkedIn on interviewing best practices.	In groups, develop a checklist for interviewers to use to prepare for an interview; compare group checklist to the official checklist prepared by HR (available on intranet).
Analyzing	Identify the elements of an effective behavioral interview.	Blog Video	Read blogs by Monster, GlassDoor about the structure of behavioral interviews and effective questioning techniques.	Watch a video of a behavioral interview and use a scoring sheet to classify the different techniques used.
Evaluating	Evaluate different ways of conducting a behavioral interview.	Wiki Video	Review the behavioral interview questionnaire and scoring sheets used by interviewers.	Watch two videos of behavioral interviews and use a scoring sheet to compare and score the effectiveness of the interviews.
Creating	Conduct a *mock* behavioral interview.	Wiki Mobile phones	Review examples of completed behavioral interview notes and scoring sheets.	In groups, conduct a mock interview; record mock interviews on mobile device for the group to playback, score and discuss.