



GUIDE TO CREATING A QUALITY ASSURANCE PROCESS

INTRODUCTION



This guide provides recommendations for implementing **quality assurance** and **quality control** processes within your organization.

Let's begin with a few definitions. We often use the terms *quality assurance* and *quality control* interchangeably, but they do not mean the same thing. In the book, *Managing the Testing Process: Practical Tools and Techniques for Managing Hardware and Software Testing*, Rex Black writes, "...quality control is concerned with product, quality assurance with the process."

He continues:

"Quality Assurance is generally defined as the process used to ensure a product meets quality standards. It consists of activities that occur before and during the production process. Essentially, measures to ensure a quality product should begin before the product exists." - Black

Quality control is a step in a full quality assurance process. I like to think of it this way, quality control focuses on the course that's there, and quality assurance focuses on the courses that are not.

QUALITY ASSURANCE

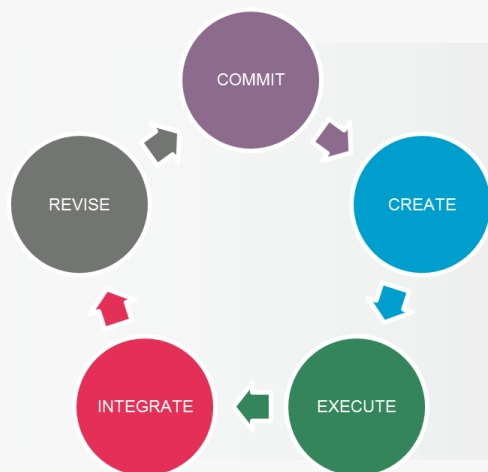


We'll start with the larger overall process of **Quality Assurance** or QA.

QA is a process used to ensure that a product meets quality standards. It consists of activities that occur before and during the production process. This section covers what should be included in a quality assurance strategy and the considerations behind each element.

The Path to a Quality Assurance Process

Here are five actions we recommend you take while designing a quality assurance process. It's set up like a repeating process because it may take several revisions to get to a process that works.



5 Step Process

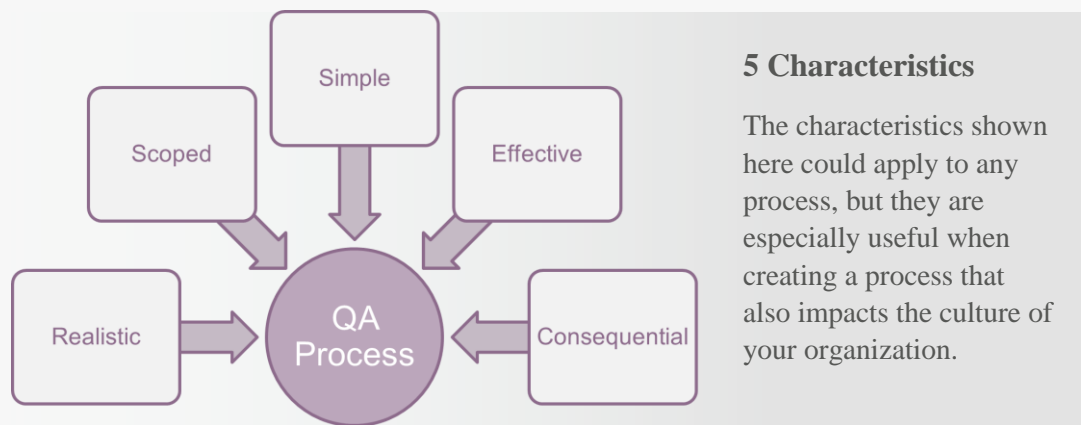
The process shown are the steps needed to *create* a Quality Assurance system. The system itself requires an entirely different set of steps that you will create in collaboration with your team.

Let's walk through the steps in detail.

1 COMMIT TO QUALITY ASSURANCE

All of your work building a process will be wasted if your team is not fully committed to consistently adhering to a quality assurance process. It's important to create a process that coincides with your team's level of commitment.

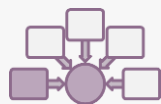
To ensure your process enjoys a long life, create one with the following characteristics.



5 Characteristics

The characteristics shown here could apply to any process, but they are especially useful when creating a process that also impacts the culture of your organization.

Realistic



Start with taking a hard look at the time and resources your team has at its disposal and be realistic about the effort that can be dedicated to quality assurance and control. For example, on paper, it may make sense that one developer could review someone else's work, but when will the reviewing developer have the time to conduct a thorough review while juggling his own workload? If everyone's workload is going to stay the same, be realistic and empathic about how much time and effort people can invest in a new process.

Scoped

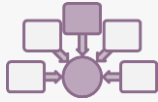


There are three types of reviews, all of which are often slapped with the same label despite having different purposes. The **content review** ensures that the content is accurate, a task typically left to subject matter experts. There's the **design review** where another instructional designer may review the course's design and give feedback on the instructional strategies used (or not used) in the course. Finally, there's the **technical review** where a resource (often whoever is available, able, and willing to do it) walks through the course to ensure that the course can be successfully navigated and completed.

When you call out all three type of reviews, it seems absurd that one person would be expected to conduct all three reviews or that any of these reviews wouldn't occur at all. Consequently, your quality assurance plan should specify what types of reviews will occur and who is responsible for both engaging them and conducting them. In other

words, you must define the scope of your review processes and explain what's included in each type. Again, be realistic. Not every project can have or even should have all three reviews. The point of scoping is acknowledging all three types and demonstrating a clear understanding of what is gained by conducting them and what is lost by eliminating them from the workflow.

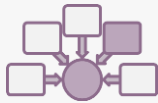
Simple



Teams tend to either ignore needlessly complex processes or streamline them out of existence. Designing a sustainable process may require making a few tradeoffs on thoroughness, but a more flexible process is better than no process at all.

You also may want to specify when to use the process. Not every course may require this type of oversight. If your process often appears to be a disproportionate response to quality assurance for a simple course, commitment will begin to wane.

Effective



Determining the effectiveness of any process begins with identifying the problem the process is supposed to solve. Let's be honest here – if no one sees the need for a quality assurance process, do not build one. People do not use what they do not value. If all your designers and developers are willing and able to shoulder the complete burden of ensuring all materials meet quality standards (if you have them) and there have been no complaints from learners, then the commitment to your new QA processes will be low.

I'll bet that is not the case – and the team either suffers in silence or has learned to make due because they have no choice. I'll also bet that learners are not reporting errors they find because they may not care (or remember spotting them, or recognize what they see as an error) or they may not have the mechanism to report them. There's also the chance that they have reported them and there's a list of errors snuggled in the evaluations buried in your LMS. It's also worth mentioning that just because your team believes they can create perfect courseware by themselves, doesn't mean they should. How much of that time spent chasing commas could be spent creating more effective learning solutions?

Essentially, identify what you're trying to solve and tie it to a metric. Is it the number of reported errors? Is it the time spent updating courses? Is it the time and labor involved in the review process? Then determine what activities will influence that metric and how you can measure its movement up and down the dial. Frankly, there may be no way to truly measure it with concrete data without adding considerable effort to someone's workload.

Consequential



The QA process has to mean something to your team. Something must be gained when a team member follows the process, and it has to cost something when a team member doesn't. What are the consequences of ignoring a quality assurance process once it's in place – not just for that

person, but for your team and the products you create? You must define those consequences, communicate them, and most importantly, apply them consistently.

2 CREATE A PROCESS

Once you've committed to creating a process, your team needs to define, document, and communicate it. Here are a few of the elements that should be included in a quality assurance process:

Quality Assurance Process	
Standards	Steps
Definitions	Responsibilities
Timing	Control

6 Key Elements

Ensure that you at least include all the elements shown here. You may add others based on the need and your team's preferences.

Standards

All courses should be perfect, but here on earth, that's not always realistic. There's no single, let alone perfect, way to create a course. We also rarely have enough time to accomplish all we want. So while it's good to have a laundry list of stuff to look for, it may also be better to have general standards that apply across the board.

It's also important to describe the quality standards for both the work being reviewed and for the process itself. For example, is there a specific way to write feedback statements? Ideally, come up with a statement structure for all feedback so that it's delivered consistently to everyone.

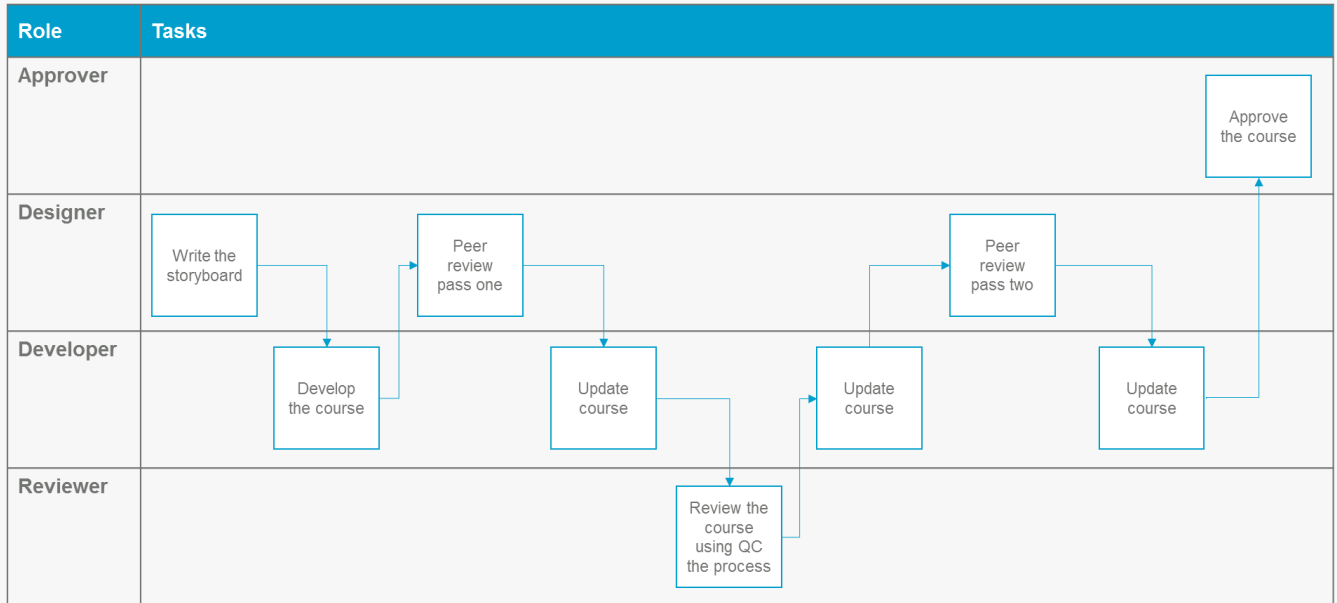
Here are a few examples of standards for elearning courses:

- Use the organization's approved template and color schemes (Developers may customize template layouts as needed)
- Use photographs instead of clipart and cartoons
- Do not match the words on the slide with the voiceover

Clear process steps

The steps describe the when, what, and how of each element in the quality assurance process. You must also decide who is responsible for engaging and completing each step.

Here’s a sample swim lane chart that shows a process and who is responsible for each task.



Ensure that every step has an essential purpose that is clear to everyone involved. For example, why should the designer review the course a second time as opposed to the developer sending the course straight to the approvers? Do you need an approver at all? What happens if the approver still wants changes?

Ultimately, your process will depend on what you are trying to accomplish and the resources you have available.

Definitions

There are terms that we use every day in learning and development that individual practitioners may define differently. It’s essential to explicitly define and communicate all key terms for the process to work efficiently.

Here are few terms that you may want to define and perhaps standardize:

- Alpha, beta, gold or final
- Suggestions vs. feedback vs. approval
- Storyboard and design document
- Review
- Versions (When do version numbers advance? Are there have versions (i.e., v1.5) and if so, what qualifies as one?)

Responsibilities

You must state who is responsible for which tasks – this is especially true for the *reviewer* role. What exactly are reviewers signing up to do? I recommend that you write a job description for the reviewer role that at least includes:

- Responsibilities
- Performance expectations
- Required skills

Timing

Your timing guidelines should include when each process should begin and end (and who is responsible). Also, provide estimates for how long each process should take *and* how much time reviewers are expected to spend reviewing and testing.

Control

“Control” refers to the actual quality control process and the review that facilitates it. I recommend that your team standardize the quality control process and provide a detailed description of how it works. Simply telling reviewers to “review the course” will lead to inconsistent results and could cause dissatisfaction with the entire process.

I recommend creating a Reviewer Toolkit that contains:

- Review instructions
- Feedback guidelines
- Tools and templates
- Links to online resources (i.e., online dictionary, style and writing guides, etc.)

I recommend making an *ideal* process and a *streamlined* process. If someone cannot go through all the steps, or all the steps are not applicable, do not abandon the entire process. Do not consider the streamlined process a *new* process. Call it what it is—a streamlined, and less ideal, version of the full process. If you do not hold on to the integrity of the full process, the shorter version will usurp the full one. That being said, flexibility is the key to your process’ longevity.

3

EXECUTE THE PROCESS

Executing the process is the most challenging step. Once the process is designed (or while you design it), everyone must make the time to execute it consistently. It’s typically not the desire to do it that stops us – it’s having the time to do it. Your goal should be to get an early win so that your team quickly develops a positive impression of your process. Also, you want to begin testing your assumptions as soon as possible.

There are no recommendations on how to find the time; you simply must commit to finding it. But if time constraints come up fairly often, perhaps your process needs to be modified to better coincide with the way the learning organization works.

4 INTEGRATE THE PROCESS INTO YOUR WORKFLOW

I’ve often heard processes like this referred to as “just another thing.” In other words, it’s just another well-meaning process that will eventually become more trouble than it’s worth. Ensure that your quality assurance and control processes avoid this fate. It cannot feel like an optional add-on task completed when people feel like it. Make sure the process appears on every project plan and comes up in every project meeting. Remind the team that the goal of a project is not simply to finish it, but to create a quality product. Change the focus of accountability from completion to quality and your team may adjust time allocations accordingly.

5 BE OPEN TO REVISION

Perfecting your quality processes will take time, patience, and lots of communication. When commitment to the process begins to wane, assume that the process needs to be revised rather than abandoned. But, too many and too frequent changes could also diminish confidence in the purpose of your processes. It may be a good idea to set up a schedule for revisiting the process periodically. Perhaps you revisit it every quarter in the beginning and then ultimately settle on a yearly schedule.

If you revise the process, quickly update all the process tools. It’s a problem when you announce a new process that can’t be implemented because the existing tools are no longer usable.

Making revisions to the process should be a collaborative effort with all affected parties involved. People tend to be more invested in processes they help create.

QUALITY CONTROL: WHAT TO LOOK FOR



There are several checklists online that lists the problems that may appear in an online course. A few resources are listed here:

- [The Ultimate eLearning Course Design Checklist](#)
- [Quality Control Template for E-Learning Modules](#)
- [Tips For Quality Control Of Online Learning](#)

The focus of your checklists typically falls within a few specific categories. The table below shows those categories and what to look for.

Category	What to look for
Click errors	Click errors are unanticipated results from clicking objects. These are difficult to test because we are conditioned to click and never look back. There’s no time to ponder because clicking typically yields an immediate result.

Category	What to look for
	<p>Testing will require many clicks and re-clicks while paying attention to what happens as a result of each action.</p> <p>One thing to watch for is consistency among results. Two buttons that are similar and near one another should yield a similar type of behavioral result. For example, if there are four buttons in a row and after you click the first and second buttons you see a lightbox popup, you should expect that a lightbox will popup after clicking the third and fourth buttons. If nothing happens after clicking the third and fourth buttons, it is probably a mistake, but if an animated box appears from the left instead of a lightbox popup, then the developer may have done that on purpose. If there is no obvious reason for the discrepancy, this is where you put yourself in the learner’s shoes and perhaps recommend consistency.</p>
Multimedia errors	<p>You’re listening/watching to ensure that:</p> <ul style="list-style-type: none"> • If there is text in the Notes panel, that the narration and the audio match – note that depending on the design methodology, the words on the <i>screen</i> (not the Notes panel) may not match the narration • There are no problems in the audio recording, like static or unintentional background noises • The audio plays all the way through without editing errors <p>The same rules apply to videos. You must watch all the way through to ensure there are no problems with the video or the video’s audio. Development tools provide options to either start videos automatically or by clicking them. Developers are most likely to elect to start the video by clicking it, but many neglect to instruct learners to do so. Consequently, clients often ask to note instructions on the slide.</p>
Interactivity functionality	<p>Developers are free to create nearly any interaction they want, which makes it difficult to identify a problematic experience. Here is where you need to put on your learner’s hat and ask, “How would the learner assume this interaction works? What would the learner expect to happen as a result of this interaction?”</p> <p>Consistency is key here. Interactions similar in appearance and purpose typically behave in similar ways. We are not</p>

Category	What to look for
	<p>implying that this is the correct way to design interactions, but it is the best way to anticipate results.</p>
<p>Synchronization and timing errors</p>	<p>Fight the temptation to assume that animation will work. Closely watch every slide until the end. That is the only way you can truly test timing and synchronization.</p> <p>The synchronization strategy used may differ depending on whether the course contains audio. If the course is narrated, chances are the developer’s intent is to synchronize the appearance of words and images with the text. How they manage the synchronization is a stylistic choice. Some have the item appear at the same time as it’s mentioned in the narration. Others may have it appear before or after it’s mentioned. Also, some developers will stagger the appearance of screen elements (or have everything appear on the screen at once), but not synchronize them with the audio. Most use a combination of all of these techniques throughout a single course.</p> <p>Again, draw assumptions from implied consistency. If you deduce that the developer is synchronizing text, assume that most instances where items are not synchronized are errors – unless you receive contextual clues otherwise.</p> <p>If the course is not narrated, animation can seem random. Developers will stick with timed animations or use other strategies to control the flow of information. Again, let consistency be your guide in determining what is working and what isn’t.</p>
<p>Missing text and objects</p>	<p>Items could be missing for three reasons: 1) it was omitted or removed, 2) the trigger (timing or clicking trigger) tied to item’s appearance has not been hit, or 3) the item is in a hidden state or is obscured by another item.</p> <p>The first challenge is to deduce that something is indeed missing. The audio, context, and consistency is the only way to know. Frankly, you often will not know. Again, consider what you believe the learner would anticipate happening. Also, consider that your feedback can simply be that you anticipated something happening that did not happen. The developer can move forward with the information as needed.</p>

Category	What to look for
Broken hyperlinks	<p>It's becoming difficult to identify hyperlinks. You can no longer tell by looking for underlined text. You'll have to listen for it in the audio or watch for onscreen clues.</p> <p>You are testing to ensure that the hyperlink functions, but you may not have access to the online resource that the link is pointing to because it may be on an internal server or intranet site. This may or may not be the intent of the developer. In these cases, if the link appears to be "broken," enter it in the feedback, but acknowledge that the resource appears to be housed internally.</p>
Graphic errors	<p>When it comes to graphics, there are objective errors and subjective opinions. Again, you are looking for errors. Common errors could be graphics that appear to be cut off or that seem to be covering text. Graphics themselves may also contain text errors.</p> <p>You'll come across graphics that appear to be misshapen, distorted, or pixelated. Bring it to the developer's attention, but she may not see the problem the same way you do. Also, make sure you are as specific as possible. Instead of saying, "The picture looks poor quality," say, "The picture appears to be stretched horizontally, and it's blurry."</p> <p>As for graphic choices that do not meet standards (clipart vs. photographs), it may not be an error so there may be no need to provide feedback. However, you may want to recommend that the type and style of images used be consistent throughout the course.</p>
Navigation	<p>There are at least three types of navigation problems: 1) dead-end navigation, 2) unintuitive navigation, 3) mis-linked navigation.</p> <p><i>Dead-end navigation</i> happens when the only action that can take you to the next slide does not work. The learner gets stuck and has to use the navigation menu, if there is one, to get to the next slide. The typical culprit is a broken button, primarily the Next button.</p> <p><i>Unintuitive navigation</i> is when the learner cannot easily figure out how to proceed. Learners will naturally assume that the Next button will take them to the next slide so this problem primarily arises when there is no Next button, but</p>

Category	What to look for
	<p>there also aren't any visual or audio cues that indicate what to do next.</p> <p><i>Mis-linked navigation</i> can happen in branched courses and occurs when a button or link leads the learner to the wrong place. These are easy to miss because it may not be obvious that you have been directed to the wrong location. Sometimes there are visual cues that will indicate that the slides are linking to the right places – perhaps the initial slide had an icon that shows up on all the slides within that branch. It's best to simply report that you <i>anticipated</i> something happening that did not.</p>
Behavioral Consistency	<p>The previous categories are typically tied to specific objects working or not working. There are issues that deal with overall course behavior that may not be incorrect, but simply inconsistent. For example, perhaps one quiz gives the learner three attempts while the others give only one. There could be reasons why (i.e. different question types – T or F vs. multiple response), but often the developer simply may not have noticed the discrepancy.</p>

