# Integrating AI in SAM

## Agile Instructional Design Accelerated by Artificial Intelligence

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**AI Assistance Disclosure**

This document was created with the assistance of artificial intelligence tools to enhance efficiency and formatting. All research sources have been independently reviewed and verified for accuracy. The instructional design frameworks, strategic recommendations, and pedagogical insights presented represent original analysis and my professional expertise in the field of instructional design.

# Table of Contents

# Introduction to SAM

The Successive Approximation Model (SAM) offers an agile alternative to the traditional ADDIE framework. Developed by Allen Interactions, SAM emphasizes iterative design, rapid prototyping, and collaborative development. When combined with AI tools, SAM becomes even more powerful, enabling instructional designers to create functional prototypes in hours rather than days and iterate with unprecedented speed.

## Why SAM?

SAM was created to address common challenges in instructional design:

- **Lengthy analysis phases that delay prototyping** - SAM starts building quickly
- **Late stakeholder feedback** - SAM involves stakeholders throughout
- **Rigid design documents** - SAM uses working prototypes instead
- **Slow response to change** - SAM embraces iterative refinement

## SAM + AI: A Perfect Match

AI amplifies SAM's core strengths by enabling rapid prototyping, instant content generation, and quick iterations. What once took days now takes hours. What took hours now takes minutes. This document explores how to integrate AI into each phase of the SAM model for maximum efficiency.

### Key Benefits of AI-Enhanced SAM

- **Prototype in hours, not days** - Create functional course prototypes in 1-2 hours
- **Iterate at lightning speed** - Make changes in minutes based on feedback
- **Focus on design, not production** - AI handles content generation and multimedia
- **More collaboration time** - Spend time with stakeholders, not on tedious tasks
- **Lower risk of failure** - Test and validate ideas early and often

## The Three Phases of SAM

The SAM model consists of three iterative phases: Preparation, Iterative Design, and Iterative Development. Unlike ADDIE's linear progression, SAM embraces cycles of prototyping, review, and refinement.

| Phase | Focus | Duration with AI | Key Deliverable |
|---|---|---|---|
| Preparation | Quick information gathering, Savvy Start | 4-8 hours | Project brief & design direction |
| Iterative Design | Rapid prototyping, review cycles, Design Proof | 4-6 hours | Approved prototype |
| Iterative Development | Alpha, Beta, Gold builds with continuous testing | 18-28 hours | Production-ready course |
| **Total Project** | **Complete SAM lifecycle** | **28-42 hours** | **Launched course** |

# Phase 1: Preparation

The Preparation phase in SAM is purposefully brief—gathering just enough information to begin prototyping. This stands in contrast to ADDIE's extensive Analysis phase. The goal is to quickly understand the problem, identify constraints, and establish success criteria before diving into design.

## Savvy Start: The Foundation of SAM

The Preparation phase begins with a 'Savvy Start' session—a collaborative workshop that brings together key stakeholders to align on the project vision. With AI tools, you can prepare for and document these sessions more efficiently than ever.

### AI Tools for Preparation Phase

| AI Tool | Primary Use | Time Savings | Best For |
|---|---|---|---|
| ChatGPT / Claude | Pre-session research, agenda creation, workshop facilitation notes | 40-50% | Session planning, documentation |
| Miro AI | Visual workshop boards, brainstorming templates, idea organization | 35-45% | Collaborative workshops |
| Microsoft Copilot | Analyzing background materials, summarizing reports | 45-55% | Document synthesis |
| Notion AI | Creating project briefs, organizing research notes | 30-40% | Project documentation |

## Key Activities & AI Applications

### Information Gathering

- Use AI to quickly synthesize background documents and reports
- Generate interview guides for SME conversations
- Create stakeholder analysis summaries
- Identify key constraints and success criteria

### Savvy Start Workshop

- Generate workshop agendas and facilitation guides
- Create collaborative brainstorming templates
- Use AI to organize and categorize ideas in real-time
- Generate workshop summaries and action items

### Project Brief Development

- Draft project scope and objectives
- Create high-level design concepts
- Define success metrics and evaluation criteria
- Establish project timeline and milestones

## Time Savings in Preparation Phase

| Task | Traditional Time | With AI | Time Saved |
|---|---|---|---|
| Background research synthesis | 4-6 hours | 1-2 hours | **67%** |
| Savvy Start workshop preparation | 3-4 hours | 1-1.5 hours | **62%** |
| Workshop documentation | 2-3 hours | 30-45 minutes | **75%** |
| Project brief creation | 3-4 hours | 1-1.5 hours | **65%** |
| Stakeholder analysis | 2-3 hours | 45 minutes-1 hour | **67%** |

# Phase 2: Iterative Design

The Iterative Design phase is where SAM truly shines. Instead of creating detailed design documents, you build functional prototypes and refine them through multiple review cycles. AI dramatically accelerates this process, enabling you to create, test, and iterate on prototypes in hours rather than days.

## The Design Proof: Rapid Prototyping

The heart of this phase is creating a 'Design Proof'—a working prototype that demonstrates the look, feel, and functionality of the final course. With AI tools like Articulate AI Assistant, you can generate a complete Design Proof in 1-2 hours.

### AI Tools for Iterative Design

| AI Tool | Primary Use | Time Savings | Best For |
|---|---|---|---|
| Articulate AI Assistant | Complete prototype generation, course structure, interactions | Up to 9x faster | Full course prototypes, Design Proofs |
| ChatGPT / Claude | Content drafting, learning objectives, assessment design | 50-60% | Text content, structure |
| Synthesia | Prototype video content with AI avatars | 70-80% | Video mockups, narration |
| Microsoft Designer | Visual design concepts, layouts, mockups | 55-65% | Visual prototypes, UI design |
| Figma AI | Interactive wireframes, user flow prototypes | 45-55% | Interaction design, navigation |

## The Design Review Loop

SAM's Iterative Design phase operates in cycles: prototype, review, refine, repeat. AI enables rapid iterations, allowing you to incorporate feedback and create new versions in minutes rather than hours.

### Cycle 1: Initial Prototype (1-2 hours with AI)

1. **Upload source materials to Articulate AI Assistant**
2. **Generate complete course structure with interactions**
3. **Add AI-generated images and placeholder videos**
4. **Create sample assessments and knowledge checks**
5. **Present to stakeholders for initial feedback**

### Cycle 2: Refinement (30-60 minutes with AI)

6. **Use AI to quickly revise content based on feedback**
7. **Convert blocks to different interaction types**
8. **Adjust tone, complexity, or length with AI prompts**
9. **Generate alternative assessments or examples**
10. **Present refined version for second review**

### Cycle 3: Final Design Proof (15-30 minutes with AI)

11. **Make final content adjustments**
12. **Polish visual design and interactions**
13. **Finalize assessment strategies**
14. **Get stakeholder sign-off**
15. **Move to Iterative Development phase**

### Time Savings in Iterative Design Phase

| Task | Traditional Time | With AI | Time Saved |
|---|---|---|---|
| Initial prototype (Design Proof) | 16-24 hours | 1-2 hours | **92%** |
| Stakeholder review cycle | 2-3 hours | 30-45 minutes | **75%** |
| Iteration round (content revisions) | 4-6 hours | 30-60 minutes | **87%** |
| Visual design mockups | 6-8 hours | 1-2 hours | **80%** |
| Complete Iterative Design phase | 40-50 hours | 4-6 hours | **88-90%** |

# Phase 3: Iterative Development

Once the Design Proof is approved, you move into Iterative Development—building out the full course while continuing to refine based on testing and feedback. AI maintains the rapid pace established in earlier phases, enabling quick production of polished content, multimedia, and assessments.

## From Prototype to Production

The Iterative Development phase involves creating all course content, producing final multimedia assets, building out all modules, and conducting multiple rounds of testing. With AI, what traditionally took weeks can now be completed in days.

### AI Tools for Iterative Development

| AI Tool | Primary Use | Time Savings | Best For |
|---|---|---|---|
| Articulate AI Assistant | Full course development, module expansion, quiz generation | Up to 9x faster | Complete course builds |
| Synthesia | Production-quality AI videos, multilingual content | 50-60% | Final video content |
| ElevenLabs | Professional voiceovers in 32 languages | 70-80% | Narration, accessibility |
| Microsoft Designer | Final graphics, infographics, branding | 55-65% | Professional visuals |
| ChatGPT / Claude | Content refinement, SME review materials | 45-55% | Content polishing |

## The Alpha-Beta-Gold Development Cycle

SAM's development follows a progressive refinement model: Alpha (functional), Beta (refined), and Gold (final). AI enables rapid progression through these stages.

### Alpha Phase: Functional Build

**Goal:** All modules functional, content complete but unpolished

- Expand Design Proof to all modules using AI
- Generate all content from source materials
- Create all assessments and knowledge checks
- Add placeholder or AI-generated multimedia
- Test for functionality and completeness

**Time with AI: 8-12 hours (vs. 40-60 hours traditional)**

### Beta Phase: Refined Build

**Goal:** Polished content, professional multimedia, near-final quality

- Refine content based on Alpha feedback
- Replace placeholder media with final assets
- Generate professional AI videos and voiceovers

- Polish interactions and navigation
- Conduct usability testing with learners

**Time with AI: 6-10 hours (vs. 30-40 hours traditional)**

### Gold Phase: Final Release

**Goal:** Production-ready course, all final touches complete

- Address all Beta feedback
- Final quality assurance review
- Accessibility compliance check
- Final testing across devices and browsers
- Publish and deploy

**Time with AI: 4-6 hours (vs. 16-20 hours traditional)**

### Time Savings in Iterative Development Phase

| Build Stage | Traditional Time | With AI | Time Saved |
|---|---|---|---|
| Alpha build (all modules) | 40-60 hours | 8-12 hours | **80%** |
| Beta refinement | 30-40 hours | 6-10 hours | **75%** |
| Gold finalization | 16-20 hours | 4-6 hours | **72%** |
| Complete Development phase | 86-120 hours | 18-28 hours | **79-84%** |
| Total SAM project (all 3 phases) | 140-200 hours | 28-42 hours | **80-86%** |

# SAM vs. ADDIE: When to Choose Each

Both SAM and ADDIE have their place in instructional design. Understanding when to use each approach—particularly when AI is involved—helps you select the best methodology for your project.

| Factor | SAM (Agile) | ADDIE (Traditional) |
|---|---|---|
| **Project Duration** | 28-42 hours with AI | 140-200 hours with AI |
| **Initial Deliverable** | Working prototype (1-2 hours) | Analysis report (8-12 hours) |
| **Stakeholder Involvement** | Continuous throughout | Primarily at phase gates |
| **Change Response** | Embrace changes (30-min iterations) | Structured change control |
| **Documentation** | Light, prototype-focused | Comprehensive, phase-by-phase |
| **Risk of Failure** | Low (early testing) | Higher (late validation) |
| **Best Use Case** | Fast-paced, evolving requirements | Structured, well-defined projects |
| **AI Advantage** | Enables 1-2 hour prototypes | Accelerates each phase by 50-90% |

## Decision Framework: Choosing Your Approach

### Choose SAM When:

- Speed is critical—you need a course quickly
- Requirements are unclear or evolving
- Stakeholders need to see working prototypes early
- The project involves innovative or experimental approaches
- You have AI tools available for rapid prototyping
- The team is comfortable with agile methodologies

### Choose ADDIE When:

- Comprehensive analysis is required (regulatory, compliance)
- Requirements are well-defined and stable
- Documentation and traceability are critical
- Multiple SMEs need structured review processes
- The organization prefers traditional project management
- Large-scale curriculum development with dependencies

# Best Practices for AI-Enhanced SAM

## 1. Embrace the Rapid Pace

SAM with AI moves fast—sometimes uncomfortably fast for those used to traditional timelines. Trust the process. What feels rushed is actually efficient. You'll have multiple opportunities to refine through iterations.

## 2. Start Building on Day One

Don't spend days planning. After your Savvy Start session, immediately begin prototyping. Use Articulate AI Assistant to generate a first draft within hours. Stakeholders respond much better to working prototypes than design documents.

## 3. Review Early and Often

Schedule short, frequent review sessions instead of long, infrequent ones. With AI enabling 30-minute iteration cycles, you can incorporate feedback and show changes in the same meeting. This builds momentum and stakeholder confidence.

## 4. Keep the Human Touch

AI handles the production speed, but humans provide the instructional design expertise. Review all AI-generated content for accuracy, pedagogical soundness, and learner-centeredness. Use AI as a powerful assistant, not a replacement for your expertise.

## 5. Document as You Go

SAM is prototype-focused, but don't neglect documentation entirely. Use AI to quickly generate design rationales, decision logs, and stakeholder feedback summaries. Future you (and future team members) will be grateful.

## 6. Leverage Multiple AI Tools

Don't rely on just one AI tool. Use Articulate AI for course building, Synthesia for videos, ElevenLabs for narration, and ChatGPT/Claude for content refinement. Each tool has strengths—combine them strategically.

## 7. Test with Real Learners Quickly

SAM emphasizes testing throughout development. Because AI enables rapid prototype creation, you can test with actual learners earlier than ever. Get real feedback when it's still easy to make changes.

# Conclusion: The Future is Agile

The combination of SAM's agile methodology and AI's production speed creates unprecedented opportunities for instructional designers. Projects that once took 3-4 months can now be completed in 3-4 weeks without sacrificing quality. The key is embracing rapid iteration, trusting the process, and maintaining human oversight throughout.

## Key Takeaways

16. **SAM + AI = 80-90% faster projects** than traditional approaches
17. **Prototypes in hours, not days** enable early stakeholder feedback
18. **Rapid iteration cycles** (30-60 minutes) keep projects moving
19. **Choose SAM for speed and flexibility**, ADDIE for structure and documentation
20. **Human expertise remains essential** for quality and instructional soundness

## Your SAM + AI Journey

Ready to accelerate your instructional design with SAM and AI?

- Start with a small project to build confidence
- Use the 90-Day Implementation Roadmap for structured adoption
- Review Tool Comparisons to select your AI stack
- Check Prompt Templates (Appendix A) for SAM-specific prompts
- Follow Ethical AI Guidelines throughout your process

### About This Series

This document is part of a comprehensive AI Integration in Instructional Design series:

- Integrating AI in the ADDIE Module
- Integrating AI in SAM
- Ethical Use of AI in Instructional Design
- AI Tool Comparisons and Capabilities
- Prompt Templates
- ROI Framework (calculating return on investment)
- AI Decision Trees

# References & Sources

## SAM Methodology


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