

1. Keyboard-only learners cannot operate key video controls when controls are only revealed on mouse hover, leading to interrupted study flow and lower video completion.

1. User: Keyboard-only users (including users with motor impairments or those avoiding mouse use while note-taking)

2. Context/condition: Watching course videos and attempting to change play/pause, volume, captions, or playback speed

3. Observed failure (falsifiable): Required controls are not reachable via keyboard focus and/or disappear when focus changes, forcing mouse interaction to complete the action

4. Downstream impact: Breaks learning concentration, increases time/effort to watch long lectures, and contributes to reduced course completion rates

2. Screen reader users are unable to discover or activate video playback controls, preventing independent control of video learning sessions and increasing support reliance.

1. User: Screen reader users (blind/low-vision learners using assistive technology)

2. Context/condition: Playing a course video and attempting to pause, adjust volume, enable captions, or change playback speed

3. Observed failure (falsifiable): Playback controls are not exposed in a way that screen readers can navigate to or activate (e.g., controls are not present unless hovered and are not available in the accessibility tree)

4. Downstream impact: Users cannot independently manage video playback, may abandon videos/courses, and generate support tickets for basic playback tasks

3. Learners who need captions cannot reliably enable or manage captions during video playback, reducing comprehension and increasing drop-off during lectures.

1. User: Learners who rely on captions (including Deaf/Hard-of-Hearing users, non-native speakers, and users in sound-sensitive environments)

2. Context/condition: Attempting to turn captions on/off or adjust caption-related settings during video viewing

3. Observed failure (falsifiable): Caption controls are inaccessible without mouse hover and/or disappear when focus is lost, making caption activation inconsistent or impossible without a mouse

4. Downstream impact: Reduced comprehension of video content, increased frustration, and higher likelihood of abandoning lectures and courses (hurting completion-rate goals)

4. Learners attempting to adjust playback speed cannot do so without mouse interaction, making long-form content harder to complete and increasing time-to-completion.

1. User: Learners who use playback speed to manage attention, pacing, or time constraints (including some users with cognitive/attention differences)

2. Context/condition: Watching long lectures (e.g., 2-hour videos) and trying to change playback speed

3. Observed failure (falsifiable): Playback speed controls are not operable via keyboard and/or not available to assistive technologies because they require hover to appear

4. Downstream impact: Longer time required to finish lectures, increased fatigue, and reduced likelihood of completing courses within the platform's target window

5. Loss of focus causes video controls to disappear mid-task, preventing users from completing control changes and creating repeated interaction loops.

1. User: Users who switch focus frequently while learning (e.g., taking notes, using keyboard navigation, using assistive tech that changes focus)

2. Context/condition: Attempting to adjust any video control while focus moves between the video player and other page elements

3. Observed failure (falsifiable): Controls disappear when focus is lost, forcing users to re-initiate the interaction (often via mouse hover) to continue

4. Downstream impact: Increased cognitive load and frustration, disrupted learning flow, and higher likelihood of abandonment or support contact

6. The current video-control interaction pattern increases support ticket volume by blocking basic playback tasks for accessibility-reliant users.

1. User: Learners who cannot use a mouse reliably and/or use assistive technologies

2. Context/condition: Attempting standard playback tasks (pause, captions, speed, volume) during course videos

3. Observed failure (falsifiable): Users cannot complete these tasks without mouse hover, resulting in repeated failures and help-seeking behavior