

Using “Game Videos” to Provoke Reflection on Testing Practice

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I would like to suggest a presentation on my experience using the “Game Videos” in the context of teaching software testing. It will include my initial observations of the experiments with students and, if time permits, a group activity.

Game Videos are popular among sport teams. They are used to analyze past games: specific situations, critical moments, positions, good/bad moves, successes and failures – with an ultimate objective of improving the team and its performance via learning and reflection. Game videos are used by coaches, players, team strategists, analysts, commentators. Teams use the game videos not only for the analysis of their own performance but also other teams’ games. Of course, they want to learn about the skills and tactics of the potential or actual opponents but sometimes these are used merely for the purpose of demonstrating a specific technique (move, pass, kick, etc). The videos of real and simulated situations are used in training of military, police and other emergency services personnel.

In chess, “game videos” are of a different nature. They are captured in game logs, which are later analyzed, commented on, and studied from. The best games are published and the most famous fragments of those become recognized gambits, defenses, attacks etc. (e.g. the Evans Gambit, the Alekhine Defence, the Fischer Attack).

This idea is used in training teachers too. Video-recorded teaching sessions are used by instructional workshop facilitators to provide (inexperienced) educators the opportunity to review and reflect upon their actual practice: what they thought their teaching was like and what it actually was.

The key here is to encourage self-reflection on the actual practice (beyond theory and technical rationality) during and after doing/experiencing something.

I was inspired to adopt this practice in my software testing class after last WTST. During one of the breaks I asked James Bach to do a 20 min demo session of how he would investigate the NotePad This App Can Break problem. I was interested in observing him in action. I asked to record the session with an objective of showing it to the students (as a demo of how a professional tester brainstorms, uses heuristics, designs tests, executes them, learns from them, hypothesizes, gets confused, screams, deals with the confusion, takes notes, etc) after given them this problem to try first. I specifically asked James to think out-loud. The demo turned out to be very both education and entertaining. It showed that testing can be fun.

After using it once in the winter semester, I realized that I can actually do more with this idea. For the new semester, I augmented my course assignments and designed a series of weekly testing activities/exercises that students had to perform and record themselves doing that. All sessions were strictly time-boxed. Students were encouraged to think out-loud and to

annotate everything they were doing – including stating the objectives, the problems, stating which heuristics or methods they were using, what they were going to do and why, what they expected to see, etc. I had students also watch and discuss their own videos and videos of other students. I saw the progress students made in discussing their theories, models, ideas... This is an important skill for a tester – being able to professionally explain what you are doing and what you have achieved. They also become better at formulating the oracles when testing.

Moreover, these videos gave me additional feedback on the quality of my instruction and whether I needed to explain certain topics in more detail.

Overall, I think this approach is promising and I intend to explore it further.

I also believe it can be adopted by professional testers to become more effective. In addition to my account of how this practice was used with my students, I would like to suggest the following activity. A volunteer (one of the workshop participants, who is a professional tester) is offered a testing problem. He is invited to investigate that problem publicly. A 10 min testing episode is recorded as a Game Video. It is replayed. The tester is asked to reflect on his testing episode first. This is followed by a group discussion.