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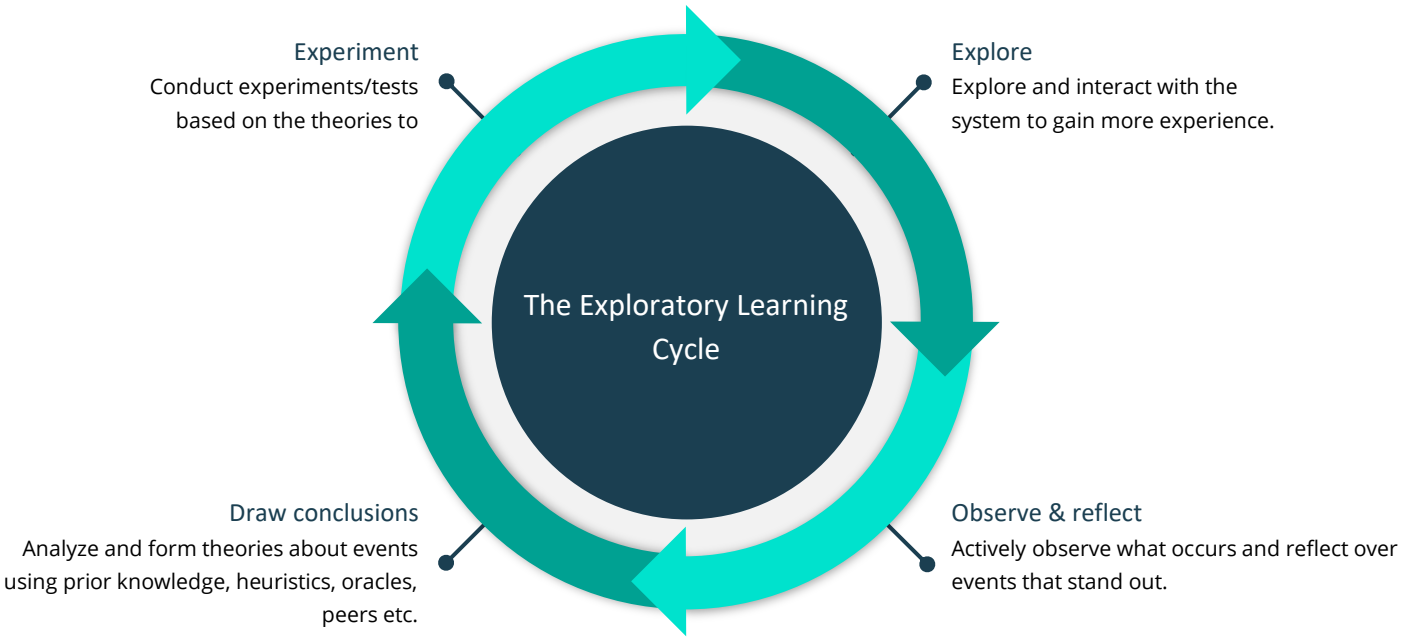
Introduction to The Exploratory Learning Cycle

When creating some teaching material for an introduction to exploratory testing I wanted to properly explain the core of the exploratory mindset - the continuous learning. This made me think of the Kolb learning model that I'd seen Elisabeth Hendrickson mention in her YouTube-video "Explore it? Explore it!". I figured I could use that as a basis and adapt it to visualize the learning process of the exploratory approach.

Obviously this is merely a readaptation of a well established model but I think it could be useful nonetheless. The adaptations consist of adjustments and rephrasing of some terms and definitions to better fit with the language and activities of exploratory testing.

The model



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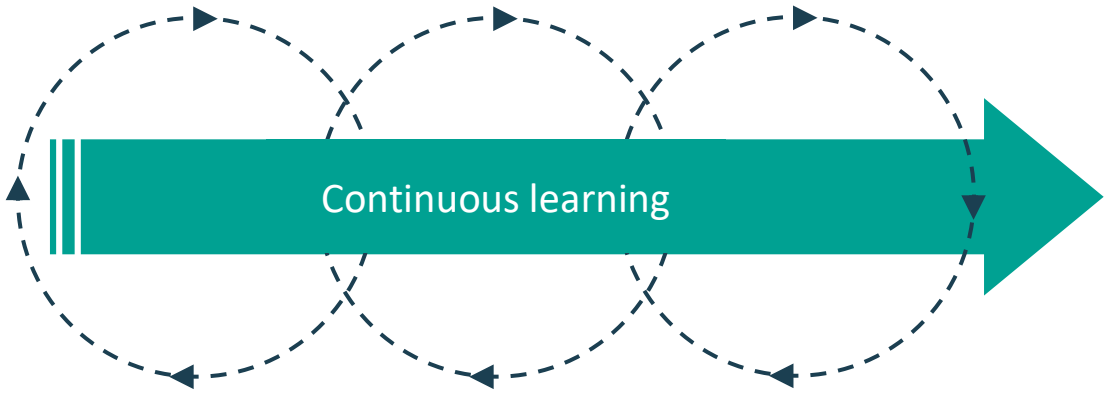
The phases

The cycle doesn't have a defined starting point which means that you can start at any phase. In an exploratory test session it would be most common to begin in the "Explore" phase but this can vary, maybe you start with an experiment you thought of during an earlier session.

The objective of the session is to learn more about the product and your mindset and activities during the session should reflect and support that. Going through all the phases increases the possibility of you learning new information as the phases are dependent on each other.

The cycle is really supposed to be thought of as a forward moving spiral where the learning happens through each repetition of the cycle. The phases can be quite short and the cycle should be repeated with every experience.



Explore

The **Explore** phase is in the original model called "concrete experience", and it's where you actively take part in an activity or a task. In my adapted model this is where you explore the product. A crucial part of this is to *actively* explore, this means hands-on interaction with the product and that you're fully aware of what responses the product produces upon this interaction.

The exploration cannot be done passively, it requires you to be engaged and alert to increase the opportunity to discover something new and interesting, or to see something in a new light.

Observe and reflect

The following phase is **Observe and reflect** which in the original model is called "reflective observation". In Kolb's model this phase is an external reflection where you discuss your experience with others. My adaptation of this phase differs a bit from that as you are often conducting a test session on your own.

In this phase you should actively observe what occurs when you interact with the product and reflect upon it. The active observation is a key part of the general exploration, if you explore without actually observing you won't find that much valuable information if any. You cannot sleepwalk through testing.

The observations and the actions you've made should also be reflected upon. This is where you start to evaluate what you've seen. You start to identify differences and discrepancies and question whether it's supposed to be like that or not. You can ask yourself questions like: Is this normal? Should it be like this? What could be the cause? and so on.

Draw conclusions

In the **Draw conclusions** phase you form theories from the observations you've made earlier. In Kolb's model this is called "Abstract Conceptualization". You interpret the events that occurred and compare them to your current knowledge and understanding of the product.

You use your prior knowledge and experience (of the product, software in general, known problems etc.), oracles, peers or other applicable sources of information to draw more concrete conclusions and form theories and hypotheses about the events.

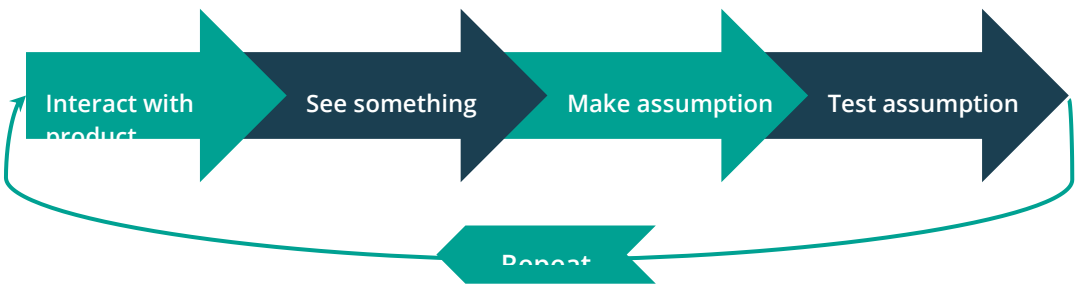
Experiment

The **Experiment** phase is where you will experiment and test the hypothesis you've now formulated. You posit a theory, you test it and you gather more information. This is what some people would deem be the "actual" testing but as you can see it's merely a fraction of the exploratory testing process.

Usage

As described earlier you can start with any phase and go through them subsequently. The amount of time and focus you put in the different phases can vary depending on both personal preference and the nature of the activity. The key is to actually go through all the phases.

Simply put it could look like this:



It could also be applied to pair testing where the two testers could focus on different phases. The person interacting with the product might put more weight on the exploring and experimenting whilst the tester beside them would focus more on the observing. The more analytical phases can then be conducted together by discussing concurrently throughout the testing session.

My purpose of this model is to visualize and concretize the mindset of the exploratory tester. I would suggest using it as a starting point in reflecting on your own exploratory actions and to purposefully hone and improve your abilities.

Inspired by/sources

Elisabeth Hendrickson's YouTube-video: https://www.youtube.com/watch?v=9FKY1Is0lgs

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