**Journal: Dynamic and Static Testing**

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As we continue to learn about various testing methods and techniques, two very specific methods of testing are identified: static and dynamic testing. The following is a brief analysis of both static and dynamic testing, their differences, and why it is important to use both static and dynamic testing.

Static testing is testing that is performed without executing the software or work products code (Hambling, B., et al., 2019, p.75). Generally, requirements and specification documents are included alongside the testing of the code without the code being executed (Hambling, B., et al., 2019, p.75). Static testing techniques seek to identify the causes of failures not just the failure alone, which is identified when test execution occurs (Hambling, B., et al., 2019, p.75). Dynamic testing is the testing that is conducted by execution of the code for the final software or hardware product and it looks at externally visible behaviors during runtime (Hambling, B., et al., 2019, p.75).

The main difference between static and dynamic testing is that static testing does not involve code execution whereas dynamic testing does. Static testing includes reviews that help to find and remove errors in the documentation before they are ever able to be used in the development process, which also helps to reduce a common source of defects in the code itself (Hambling, B., et al., 2019, p.75). Static testing also involves static analysis which is an analysis of the code that looks for defects in the code’s structure and other weaknesses in programming that may similarly lead to defects (Hambling, B., et al., 2019, p.75). It is essential that both static and dynamic testing is performed on software. Because static testing can help identify errors that can lead to defects and cause failures, it is essential that this type of testing is performed before any dynamic testing is carried out and as early in the development process as possible. Once all of the static testing has been completed and the software is developed, dynamic testing can then be performed, which then helps to eliminate the additional errors that static testing could not identify.

**References**

Hambling, B., Morgan, P., Samaroo, A., Thompson, G., & Williams, P. (2019). *Software testing*

*: An istqb-bcs certified tester foundation guide - 4th edition*. BCS Learning & Development Limited.