

Competence Assessment Training and Teaching In a Total Automated Microbiology Laboratory



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Introduction

Competence assessment, training and teaching are integral in developing knowledgeable competent staff and essential in meeting accreditation requirements for a Microbiology Laboratory. The introduction of WASP™/ WASPLab™ automation in the laboratory supports effective methodologies to provide the required consistency in specimen processing, incubation and digital imaging. The objective of this study was to use digital culture imaging and gram slide preparations generated by the WASP™/ WASPLab™ automated system as well as automated staining for competence assessment, training and teaching of staff, students and residents.

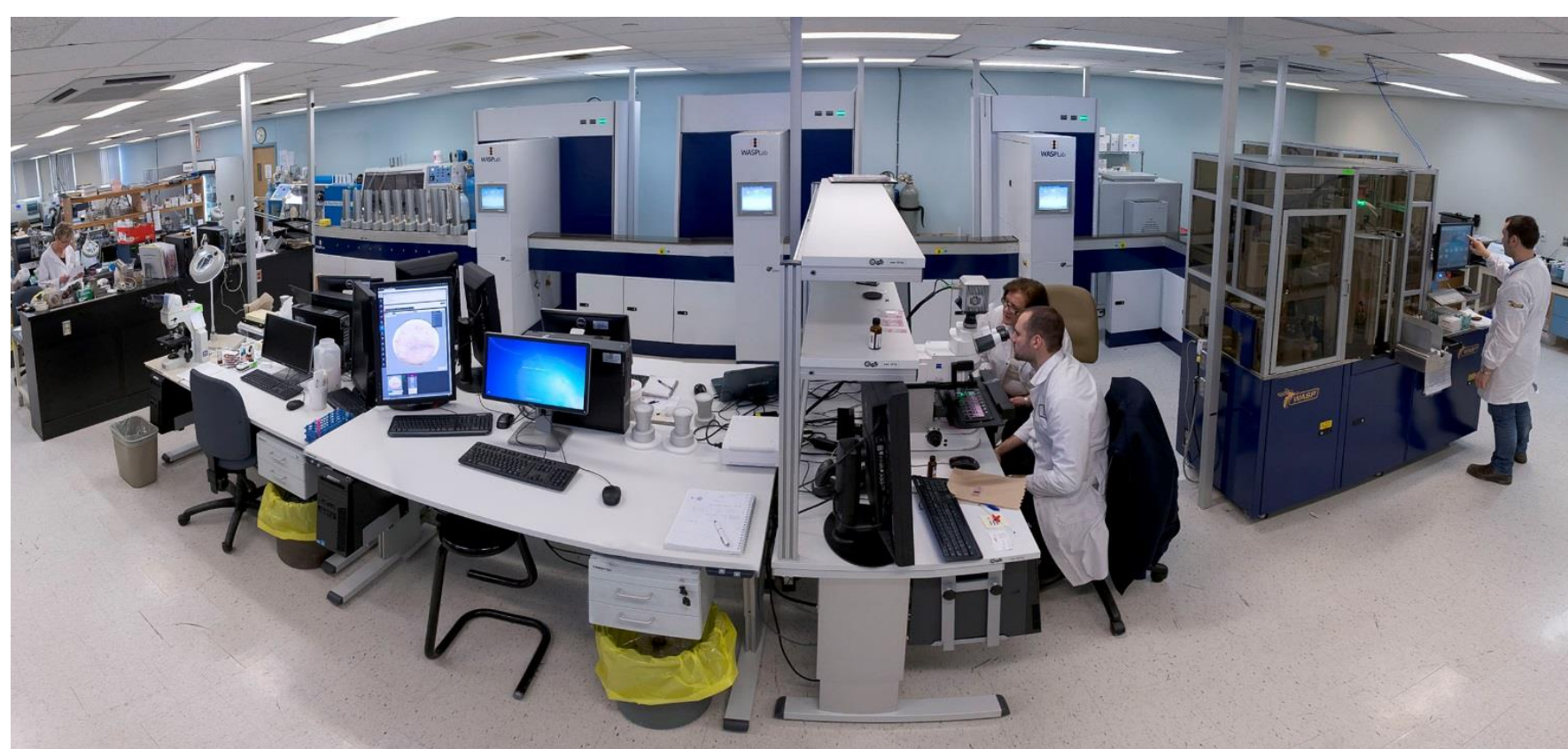


Figure 1: WASPLab System



Figure 2: WASPLab digital imaging analysis

Materials and Methods

WASP™/WASPLab™ automation and automated staining were used to provide competence assessment to 49 Medical Laboratory Technologists (MLT) and 13 Medical Laboratory Assistants (MLA). MLTs analyzed digital images on the WASPLab™ from various patient specimens. All MLTs looked at the same images. MLTs also read gram stain slides prepared by the WASP™ and stained with an automated stainer. MLAs performed daily maintenance procedures on the WASP™ and WASP™ slide preparation module.

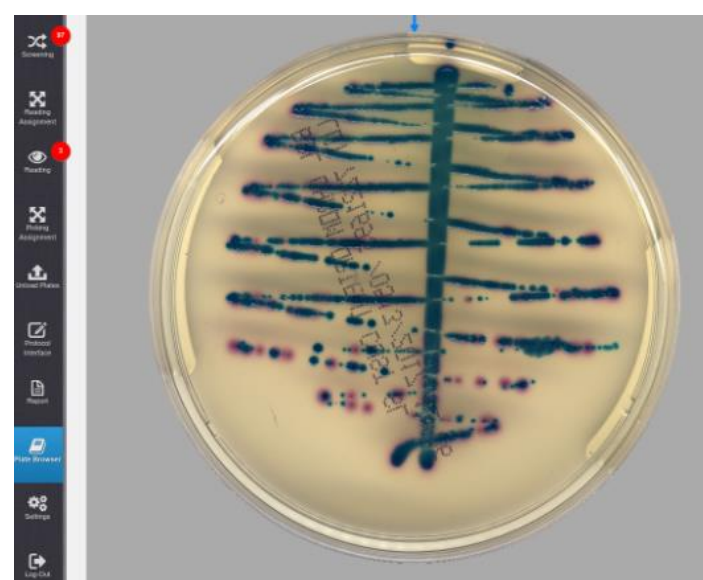


Figure 3: WASPLab Image

Results

Upon direct observation, all 13 MLAs performed the appropriate maintenance tasks on the WASP™ slide prep module as well as demonstrating problem solving skills.

Using WASP™/WASPLab™, 5 urine specimens were processed and analyzed by 49 MLTs. Images were available in the plate browser and MLTs were given a simulated choice of button selections in the screening/reading modules. All MLTs were successful in their selections, image analysis and reporting. The same MLTs were given 5 gram slide preparations of positive blood cultures made by the WASP™ and stained with the automated stainer. All MLTs were correct in their smear interpretation.

Conclusion

Laboratory automation provides standardized sample preparation, processing and digital imaging analysis which aligns itself perfectly for competence assessment as well as training and teaching opportunities. Digital images are stored and available for viewing over long periods of time which helps overcome the challenge of assessing staff over a range of different shifts for many weeks. Laboratory automation can help to develop highly skilled competent personnel who provide consistent, predictable and high quality results. Stored WASPLab™ images can be used for training new staff as well as teaching students and residents.

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