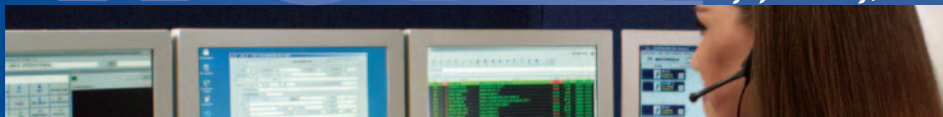# Operations

By: Jim Kuthy, M.A.

Multitasking
Why Computer Skills Testing is Necessary

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Telecommunicators must often enter information on a keyboard while listening to telephone and radio traffic, changing unit status on the computer, and making life or death decisions as to what to do next. Scientific research shows that it is virtually impossible for a person to simultaneously perform two tasks accurately while consciously focusing on *both* tasks.

Consider trying to make important decisions while simultaneously attempting to learn to ride a bicycle. You probably wouldn't be able to do either very well. However, if you had first mastered bicycle riding you would then have sufficient mental resources available to simultaneously make complex decisions while riding along effortlessly on your bicycle.

Just like becoming proficient at riding a bicycle, performance at computer-related tasks, such as data entry or manipulating a computer mouse, can become second nature with sufficient practice. In other words, if a person practices computer-related tasks to the point where little attention or effort is required, they would have sufficient cognitive resources available to simultaneously focus on an unrelated, complex task. This is why successful telecommunicators are able to perform computer-related tasks automatically.

The key to determining whether a person can perform basic computer skills without using a vast amount of their available, mental resources is by having them simultaneously perform these tasks with other job-related duties that require concentration and decision-making ability. The inability to perform two tasks simultaneously would, typically, indicate that the person had to focus their mental resources on both, thereby causing poor performance overall. According to a national study conducted by the Biddle Consulting Group, a person who can simultaneously perform computer-related tasks and a cognitively challenging task would be a better telecommunicator.

In order to identify whether an applicant has the ability to perform computer-related tasks in a routine, unconscious way, you must first make certain the test you are using actually focuses on the skills you are attempting to measure. In other words, if you are using a test that was not specifically designed to select telecommunicators, you may be measuring skills that are not important to the job and failing to measure skills that are. This would be unfair to the job applicant and might even spawn an Equal Employment Opportunity lawsuit.

Typing and data-entry require fundamentally different skills. Typists typically enter alpha characters, in both upper

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and lower case, in complete paragraphs interpreted from a printed page. Research has shown that expert typists, when typing quickly, are actually reading several words ahead of their typing. When they are not allowed to look ahead, their advantage over non-experts is virtually eliminated.

A national job analysis, conducted by the Biddle Consulting Group, found that public safety dispatchers and calltakers very rarely have an opportunity to look ahead at what they must enter using a keyboard. In addition, they typically enter a much greater proportion of numeric characters than do clerical typists. Finally, punctuation and capitalization are typically not critical for telecommunicators—data is generally interpreted audibly rather than from a written page. These factors nullify much of the *speed* advantage expert typists have over a non-experts in the dispatch environment. It appears likely that expert typists, who can quickly and accurately type complete words read from a printed page, may not be able to quickly and accurately enter audible data that contains a mixture of assorted letters and numbers (such as license plates, vehicle identification codes, or serial numbers). In other words, one could be a great typist and still be unable to quickly and accurately enter the type of information commonly encountered by public safety telecommunicators.

For this reason, pre-employment tests for telecommunicators should measure a person's ability to enter telecommunicator-specific data, in a telecommunicator-specific setting. Since traditional typing tests measure

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an applicant's ability to copy complete paragraphs, using mostly alpha characters with an emphasis on accurate punctuation and capitalization, they do not appear to be a good indicator for telecommunicator data entry skills. Additionally, traditional typing tests do not measure the applicant's ability to perform the other computer-related tasks required of a telecommunicator, such as using a mouse or managing multiple databases.

There are other benefits to hiring someone who has mastered basic computer skills and the ability to perform additional, simultaneous tasks. People who perform tasks automatically are typically better at identifying errors. They can also trouble-shoot related problems more quickly and precisely than those who have not achieved such mastery. The ability to accurately troubleshoot glitches and/or quickly identify errors can save precious time and resources during an emergency. Also, many public safety agencies report that trainees demonstrating excellent computer skills at the time of hire typically complete their telecommunicator training in less time, require less supervision, and appear to be less likely to leave the job prematurely.

Some might argue that there is sufficient time, once the applicant is hired, to practice computer skills while attending the agency's telecommunicator training classes. However, it typically takes hundreds of hours of practice before basic computer skills can be routinely and unconsciously performed. A person in telecommunicator training typically has little excess time, or energy to practice to such lengths.

A lack of *innate* ability (natural talent) must be considered as well. Public safety anecdotes indicate that some trainees *never* become proficient enough at the computer to be successful as a telecommunicator, no matter how much they practice. Discovering a trainee to be computer illiterate late in the training process can be a significant waste of resources. It is imperative that a person's ability to perform computer-related tasks routinely, and without conscious effort, be determined *prior* to an employment selection decision.

Summary

It is important that today's public-safety telecommunicators be able to perform a variety of computer-related tasks in a routine, relatively unconscious manner in order to have sufficient mental resources available to simultaneously perform other demanding job tasks. The ability to type in a clerical setting is not directly comparable to the alphanumeric, highly verbal setting of the telecommunicator. Therefore, testing each discipline is fundamentally different. Traditional typing tests do not measure the other computer-related skills needed for the job, even if the test is administered on a computer. It is therefore apparent that specialized testing of computer skills, in a job-related setting, is necessary to determine whether an applicant has the necessary skills to perform as required.

JIM KUTHY is distinguished by being both a personnel assessment specialist as well as a former law enforcement officer in two states. Jim is the author of Biddle Consulting Group's CritiCall Dispatcher/Call-Taker Pre-Employment Testing Software and conducted its nationwide validation study. He also serves as an equal employment opportunity consultant for the firm's public safety court cases. He has a M.A. and is a Ph.D. candidate from The University of Akron in Industrial and Organizational Psychology. He has served as a test consultant to an international Chiefs of Police association and has assisted in the development of validated public safety tests nationwide. He can be reached at jkuthy@critical911.com.