

A Usability and Cost-Effectiveness Comparison of Popular Test Creation Software

Patrick W. Hogan, D.O.
Michael P. Smith, M.D., M.S. Ed.

Division of Anesthesiology and Critical Care Medicine, The Cleveland Clinic Foundation

Introduction

Computer-based testing has become widely accepted in medical education. In fact computer-based testing was introduced to the United States Medical Licensing Exam in 1999, primarily out of concern about security of paper administration on a worldwide level.¹ Numerous studies have shown computer-based testing to be efficient, accurate, and enjoyable for examinees.^{2 3 4} Computer-based assessment provides the ability to incorporate images, multimedia, rapid statistical analysis/scoring, and even adaptive testing. Prior to the development of relatively low-cost, commercially-available test creation software, organizations were required to commission the creation of their exams at significant expense.

The purpose of this study is to evaluate several currently available test creation software programs.

Methods

First, the authors created a list of ideal features for test creation software. Next, an internet search was performed for the purposes of identifying several test creation software programs. The programs identified included: *P.E.S.T.* by Vellosoft Software, *Test Generator II* by Fain and Company, and *Perception for Windows* by QuestionMark Software. The software was obtained and evaluated by the authors for relative ease of use and comparison of features.

Results (see table 1)

Discussion

After extensive review it is apparent that *Perception for Windows* by QuestionMark Software would be the ideal test-creation software for those with minimal computer skills. However, when taking into consideration the high cost of *Perception*, we feel that the P.E.S.T. software represents an excellent overall value. The P.E.S.T. software is the lowest-cost option, but is the most difficult to use, and therefore it may be prudent to train a select group of individuals to author the exams. *Test Generator II* had many desirable features, but again the cost of acquiring is much higher than the P.E.S.T. software.

References

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Disclosures

The authors do not have any financial interests in or conflict of interest with any of the above software companies.

Table:1

Characteristics	P.E.S.T. by Vellosoft	Perception for Windows 3.4 by QuestionMark	Test Generator II by Fain and Co.
Cost	\$24.95	\$2,495 for test authoring software; \$995 for 50 test-takers, 5: \$3,995 10:\$6,995	\$79 per computer, includes authoring/test-taking ability on each computer
Operating System	All versions of Windows 95 and newer. No MAC support	Windows 98/NT/2000/ME/XP. No Macintosh support. Except you can use Perception for Web to take exams using any internet browser	Windows 98 or later. Pentium 100mHz, 30 MB memory. No MAC support
Ease of Use (Scale of 1 to 10, 10 being easiest)	2	10	6
Question Formats	MC/F-in-B/True & False/Drag and Drop/Essay questions must match letter for letter or will be marked wrong	MC/TF/Yes vs. No/Multiple Response/Matching/Pull-Down List/Ranking/Likert Scale/Drag & Drop/Fill in Blanks/Essay/Select a Blank/Macromedia Flash Movie/Matrix/Math questions	MC/Check Boxes/TF/Essay (manual scoring), Fill-in-Blank/Short Answer/Point and Click/Likert Scale/Numeric
Multimedia Capability	Links to Pictures Only, must be adept at creating file folders, etc.	Pictures and Video, easy-to-use	Pictures, audio, video, Flash, text, and Adobe-PDF files
Networking	No	Yes, able to upgrade to networking (Intranet/Internet/CD Publishing/Microsoft Access Database)	Yes, can upgrade basic desktop version to LAN/Internet capable
Multiple Databases	You can set up chapters within a quiz to focus on certain areas	Yes. Easy to set-up and cut/paste questions between databases.	Yes
Password Protection	Yes	Yes	Yes
Able to Limit Exam Time	Yes, but must create separate introduction page to do so. All unanswered questions are marked wrong	Yes	Yes
Answer Explanations/Feedback	Yes	Yes	Yes
Help Topics	Yes	Yes	Yes
Customized Introduction Page	Yes	No	Yes, Easy disclaimer page
Miscellaneous	Customizable Sounds for when questions are correct/incorrect	Spell-Checks Questions	Multiple User access levels (full access, test creation, test-taking, etc.)