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Teaching Procedural Skills: Beyond "See One, Do One, Teach One"

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Abstract

Background: Teaching procedural skills is an essential part of health education. Defined as “the mental and motor activities required to execute a manual task,” procedural skills encompass a broad array of professional activities, including surgical, physical exam, and communication skills. Methods. A workshop covering how to teach procedural skills was developed as part of the UNMC Health Educators and Academic Leaders (HEAL) program. The 90-minute, interactive workshop integrated educational theory and evidence-based teaching practices, including Gagne’s model of instructional design, Peyton’s 4-step approach for skills training and deliberate practice. The training included large and small group activities, including a role-play scenario in which participants applied course content to create a hand-washing skills curriculum. Kirkpatrick level 1 & 2 outcomes were evaluated using a pre/post-intervention survey. Results: Twelve medical residents and fellows (post-graduate years 3-6) from 8 different disciplines participated in the inaugural workshop. Post-intervention scores improved for 3 of 4 attitudinal questions, including “I can apply instructional design theory when teaching procedural skills (pre 2.67 vs post 4.25 on a 5-point scale), $p < 0.01$). The number of participants correctly answering the knowledge-based question also significantly improved (pre 0% vs post 92%, $p < 0.01$). Course evaluations were positive for all 6 questions (mean scores 4.75-5 on a 5-point Likert scale). Conclusion: A workshop focused on evidence-based teaching of procedural skills was well-reviewed and improved participants’ attitudes and knowledge. Strengths of the intervention include its appeal to a broad range of medical trainees (residents and fellows in various disciplines), integration of educational theory, and interactive design. Future areas of study will look at the workshop’s impact on additional cohorts of learners, including those in other health professions.

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