

SHORT COMMUNICATION

Effectivity of E-Learning as a Resident Education and Engagement Tool

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The COVID-19 pandemic impacted resident medical education by reducing opportunities for face-to-face contact with patients and colleagues. While virtual lectures helped bridge this gap, many learners have noted difficulty focusing and burnout from this format, a phenomenon dubbed “Zoom fatigue.”^{1,2} In response, there has been a growing movement to engage the current generation of residents through platforms they identify with (e.g. text/chat groups) as an adjunct to traditional lectures.³

The Baylor College of Medicine Department of Dermatology implemented an e-Learning initiative in 2020: a WhatsApp and text messaging group with case-based and non-case-based questions along with answer sessions. The WhatsApp platform was selected due to its end-to-end encryption of texts, wide availability across smartphone platforms, and administrative rights ensuring security of protected health information. For text messages, any identifiable images were not used. All messages were saved to each user's device making it possible to review past questions and images. The inaugural group consisted of two faculty leaders and

eleven dermatology residents. Following the first nine months of the pilot educational initiative, a voluntary, anonymous survey, approved by the Baylor College of Medicine Institutional Review Board was sent to the resident and faculty participants. Survey responses were analyzed with descriptive statistics.

A total of 3189 messages were sent during the first nine months of the WhatsApp chat and texting groups, including 296 images of informational graphics. Overall, 49.9% of messages were sent by the faculty and 50.1% were sent by the residents. In addition to case-based and non-based questions, the messaging group was used to share schedules and encouraging messages.

The survey returned a 100% response rate of group participants. Overall, 69.2% (9/13) of respondents found the initiative to be effective and 23.1% (3/13) deemed it very effective (Figure 1). When compared to in-person discussion, 61.5% (8/13) of surveyed physicians found WhatsApp/texting to be as effective as in-person discussion, while

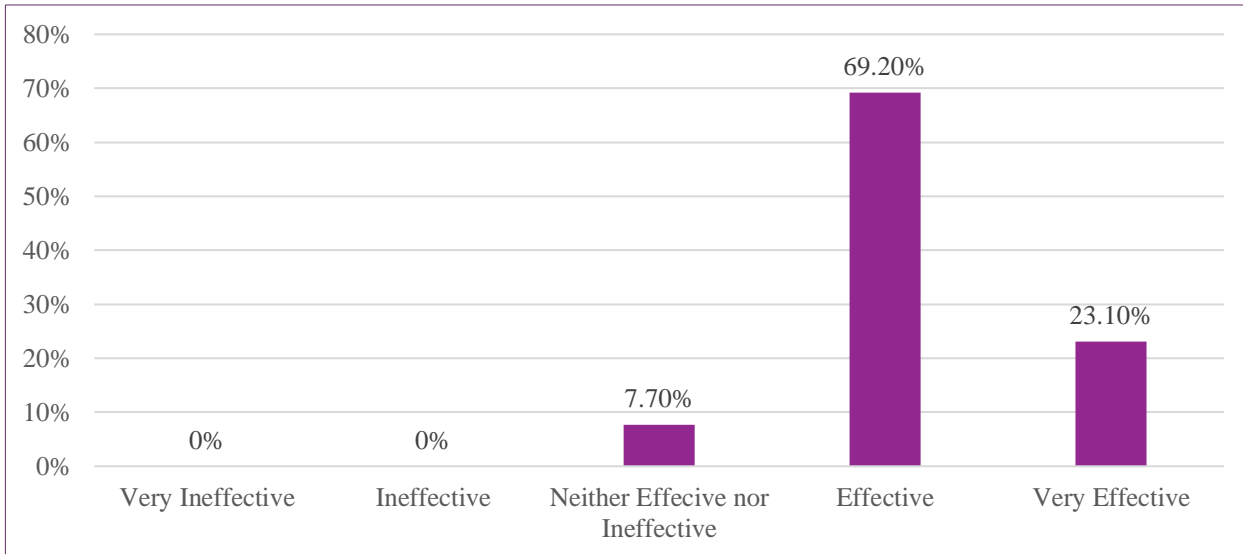


Figure 1. Response to Survey Question “How effective do you find the dermatology resident WhatsApp and texting groups as a case-based learning tool?”

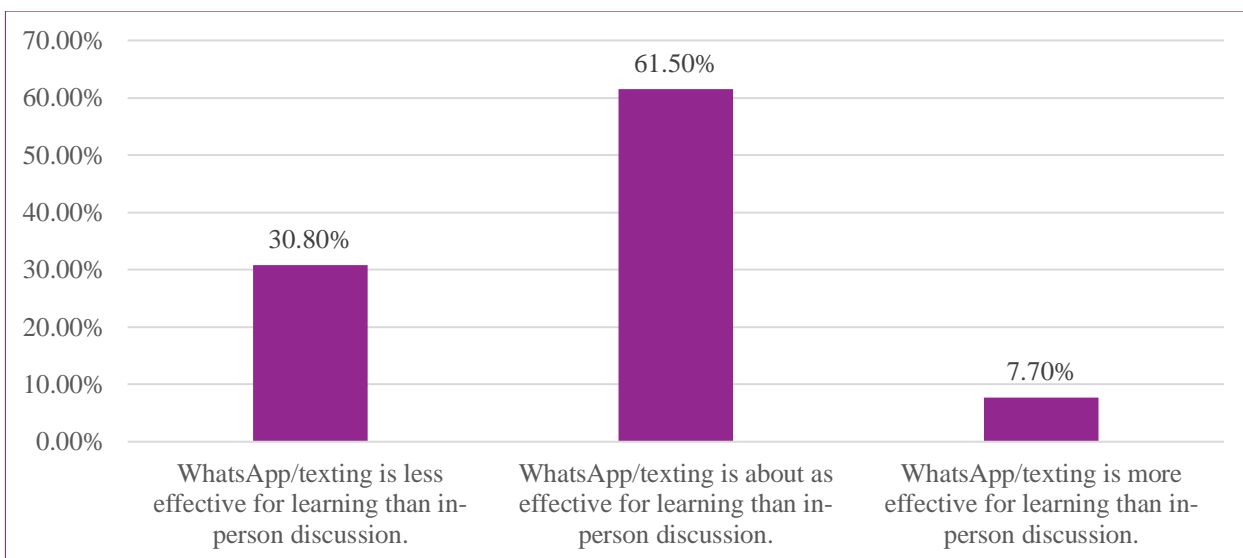


Figure 2. Response to Survey Question “How would you compare this experience to in-person, small group ‘problem-based learning’ activities, in terms of learning effectiveness?”

30.8% (4/13) thought it was less effective (Figure 2). When asked about the strengths of the initiative, participants noted the ease of access to review material, sense of connectedness with faculty and residents, and the overall enjoyment it brought to their day. Areas for improvement included that the messaging sessions were not as interactive as in-person learning and that it was occasionally difficult to participate in

discussions depending on the resident’s rotation schedule.

This eLearning initiative has now evolved to involve five faculty, seven graduated residents working as practitioners, and twelve residents. Not only has it been a useful adjunct tool to traditional lecture, but it has also served as a platform to discuss cases requiring multidisciplinary approaches. To maximize participation,

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groups should identify optimal times for resident participation such as weekdays during the lunch hour or immediately after clinic duties. Future considerations for the group include having educators use this tool to send post-lecture questions to reinforce material. We encourage programs to incorporate similar educational messaging programs, as most of our participants found it to be enjoyable, educational, and a bonding experience within the department.

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References:

1. Samara O, Monzon A. Zoom Burnout Amidst a Pandemic: Perspective from a Medical Student and Learner. *Ther Adv Infect Dis.* 2021 Jun 24;8:20499361211026717. doi: 10.1177/20499361211026717. PMID: 34249356; PMCID: PMC8239965.
2. Asgari S, Trajkovic J, Rahmani M, Zhang W, Lo RC, Sciortino A. An observational study of engineering online education during the COVID-19 pandemic. *PLoS One.* 2021 Apr 15;16(4):e0250041. doi: 10.1371/journal.pone.0250041. PMID: 33857219; PMCID: PMC8049279.
3. Clavier T, Ramen J, Dureuil B, Veber B, Hanouz JL, Dupont H, Lebuffe G, Besnier E, Compere V. Use of the Smartphone App WhatsApp as an E-Learning Method for Medical Residents: Multicenter Controlled Randomized Trial. *JMIR Mhealth Uhealth.* 2019 Apr 9;7(4):e12825. doi: 10.2196/12825. PMID: 30964435; PMCID: PMC6477573.