# Lessons Learned from a Writing to Learn Program for Public Health Students at the University of Tokyo

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**ABSTRACT:** We have taught writing for public health to students completing a Master of Public Health since 2016 in Japan. We adopted a writing-to-learn approach and assigned work to students to write health materials that encourage recipients to perform health behaviors (eg, drafting a poster to encourage lay audiences to adopt preventive behaviors during the COVID-19 pandemic). We collected students' work assignments and products from 2016 to 2020 and reviewed them to identify distinctive trends common to all years. We found that there was a *curse of knowledge* (ie, difficulties to imagine the state of mind of not knowing when knowing something) among students. Students strongly embraced the adage "knowledge is power" and underestimated the difficulties lay audiences face. Their writing was somewhat dogmatic, whereby experts imparted privileged knowledge to ignorant non-experts. However, it is well known that merely imparting knowledge often does not work to educate lay audiences about making better decisions. Debiasing this *curse of knowledge* among students will be the main target of our writing education.

**KEYWORDS:** Medical education, public health, writing research, writing instruction, composition, health communication

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Health professionals have to improve their communication skills to inform and influence individual and community decisions that enhance health.[1] Although such communication is a core competency for health professionals, it receives little emphasis in medical education.[2] In many cases, health professionals communicate about health topics to lay audiences through written materials, such as letters, posters, leaflets, websites, and social media messages. Such written communication involves both the message (ie, what is being said) and the delivery (ie, how it is being said).[3] Our previous studies showed that writing by Japanese health professionals is inadequate in both the message and delivery.[4,5] For example, Japanese pro-vaccination messages by health professionals frequently used probabilities and relative frequency statistics that were difficult for lay audiences to understand.[4] In addition, the readability level of pro-vaccination messages by health professionals was much lower than that of the anti-vaccination messages, making them more difficult to read.[5] Studies of processing fluency (ie, the ease or difficulty with which information can be processed) indicate that written health materials that are easy to read and understand have enhanced perspicuity and persuasiveness.[6] Thus, an improvement in writing competency of health professions is needed in Japan.

In an attempt to improve the writing competency of public health professionals, we initiated a lecture (105 minutes) to teach writing for public health in our series of health communication lectures at the Department of Health Communication in the School of Public Health in the University of Tokyo. In 2018, we initiated a practice (210 minutes) to teach writing for public health in our series of health communication practices. Students from other graduate schools (eg, health sciences and nursing) have also taken our course, meaning about 40 students attend the lecture and practice each year. Our program covers: the importance of audience awareness and the ability to take the perspective of lay audience readers[7,8]; the importance of writing fluent materials that are easy to read and understand for lay audiences[6]; and basic writing components such as goal setting, generating ideas, structuring, writing, and revising.[9] We emphasize enhancing students' ability to write to inform, and their ability to influence and encourage behavior change in lay audiences. Therefore, we introduced tactics such as using narratives (eg, case stories or story examples of patients to support arguments offered by public health professionals),[10,11] the heuristic rule of social norms that "if many others are doing it, it must be good" (eg, 4 out of 5 people are vaccinated),[12,13] and implementation intentions (ie, furnishing the goal intention with an "if-then" plan that specifies when, where, and how the person will instigate responses that promote goal realization).[14-16]

In our lecture and practice each year, we ask students to write health materials that encourage recipients to perform health behaviors as work assignments. These assignments use the writing-to-learn approach, which helps students process and integrate new information into their understanding through short, low-stakes writing assignments.[17,18] For students, writing materials to encourage behavior change in lay audiences is a different task from writing assignments (eg, research protocols and academic papers) that are assessed and graded in the School of Public Health. The writing-to-learn approach helps students to explore ideas about messages to encourage behavior change in lay audiences, synthesize the knowledge they acquired in our program with their ideas, and discover the possibility of writing persuasive materials with innovative ideas.

In our lecture, we ask students to spend 20 minutes drafting (by hand) health materials that encourage recipients to perform health behaviors using A3 size paper (eg, a flyer to encourage recipients to undergo cancer screening). After students finish drafting these materials, their drafts are shared with peers to generate discussion on the program content. From 2016 to 2019 in our practice, groups of about 4 students were asked to create a draft for a poster regarding a public health topic on A1 size paper for a group assignment. However, in 2020, COVID-19 restrictions meant that the program was conducted online using a web-based conferencing system. Therefore, we asked students to individually create an A4 size draft poster to encourage lay audiences to adopt preventive behaviors during the COVID-19 pandemic using Microsoft PowerPoint (Redmond, Washington, United States). After all students had completed this assignment, they shared their products and exchanged ideas with other students and faculty to reflect on and deepen understanding of the program content.

The authors (TO and HO) collected students' work assignments and products from 2016 to 2020 and reviewed them to identify distinctive trends common to all years for this report. In each year, we found that many students produced work with somewhat doctrinaire and condescending overtones, whereby experts imparted privileged knowledge to ignorant non-experts. For example, a 2020 work assignment involved writing material to encourage lay audiences to adopt preventive behaviors during the COVID-19 pandemic; 1 student wrote, "Do not go out! Wash your hands! Data show that the mortality rate of cancer patients infected with the novel coronavirus is about 4 times higher than that of non-cancer patients." On a different topic, another student wrote, "Stand up! Longer sitting time is associated with 2.1 times higher risk of diabetes, 2.5 times higher risk of cardiovascular disease, and 1.2 times higher risk of depression."

However, it is difficult to help lay audiences make better health decisions by simply dogmatically imparting knowledge and direction.[19] Health professionals are often biased or "cursed" by the privileged knowledge that they possess.[20] In particular, when health professionals embrace the adage "knowledge is power," their *curse of knowledge* raises barriers to communicating with lay audiences.[20] The *curse of knowledge* refers to difficulties that arise from knowing something; when we know something, it becomes difficult to imagine the state of mind of not knowing.[20] For example, an experimenter asked a subject to tap out well known songs with their fingers and then predict how often listeners would recognize those tapped melodies; the tapper always overestimated.[21] This is because the tapper cannot imagine the song playing in their head is not playing in listeners' heads. In the context of health communication, the "tappers" are health professionals and the "listeners" are lay audiences. The *curse of knowledge* indicates that health professionals may achieve poor communication results if they cannot imagine the mind of lay audiences, and underestimate the difficulties lay audiences face.[22] As shown in the aforementioned studies[4,5] and the student-produced work, health professionals often give directions to lay audiences with complex information using technical terms and statistics that are difficult for lay audiences to read and understand. This *curse of knowledge* of health professionals may make it difficult for lay audiences to become sufficiently interested in the information provided or make recommended behavior changes.

Despite teaching students about the importance of taking the perspective of lay audiences,[7,8] we have found the *curse of knowledge* in student-produced work every year. One reason for this may be the tradition of the patient—doctor relationship in Japan that has remnants of the paternalism of passive patients and dominant doctors.[23] Debiasing the curse of knowledge among students will be the main target of our writing education. For future practices, regarding the message creation (ie, what is being said), getting feedback on students' drafts from their intended audience may make it easier for students to be aware of and debiase their *curse of knowledge* and revise their drafts appropriately.[7,24] In terms of the delivery (ie, how it is being said), tools such as the Patient Education Materials Assessment Tool[25] and the CDC clear communication index[26] make several clear recommendations for health professionals creating written health materials. These recommendations include revising technical language into everyday language, shortening long sentences, and adding informative headers to each section. Having students use such tools to evaluate their drafts may also make it easier for them to debiase their *curse of knowledge* and make appropriate revisions.

However, a large amount of research and practice is needed to create an educational program that enables students to debiase their *curse of knowledge*. We must study the metacognitive processes of skillful writers of health materials, and how they overcome their *curse of knowledge*. In addition, we must consider effective interventions involving metacognitive control to debiase the *curse of knowledge* when writing health materials. The wealth of previous studies on writing research in educational psychology may be helpful to achieve this.[27] However, the nature of public health writing means that experts inform and influence non-experts and encourage certain behaviors. This characteristic makes writing for public health and teaching writing difficult. Much effort is needed in this arena, and we are just getting started.

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## Author Contributions

**Tsuyoshi Okuhara:** Conceptualization, Formal analysis, Investigation, Writing - Original Draft, Acquisition of the

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