

Investigating Parents' GenAI Feedback Literacy and Its Effects on Students' Academic Learning: Instrument Development and Validation

Children do activities at home, and those who get better feedback from their parents learn more. However, most parents do not know how to supervise their students' daily chats with Generative Artificial Intelligence (GenAI)—they lack Parent-GenAI feedback literacy (P-GenAIFL). So, they can be overprotective, overcontrolling, or overly critical of their children's GenAI use and obstruct their learning. Although many researchers examined students' and teachers' GenAI feedback literacies, no one designed and validated a survey instrument to assess P-GenAIFL to show its effects on student learning outcomes. Without such an instrument, we cannot examine P-GenAIFL and determine its effect on student learning, let alone test the effectiveness of parent intervention programs. To address this issue, we will do a study with three parts. First, we create and validate an instrument to measure P-GenAIFL knowledge, beliefs, and practices. Second, we assess the P-GenAIFL of parents in Hong Kong. Third, we explore the effects of P-GenAIFL on students' learning outcomes. Guided by our definition of P-GenAIFL and individual interviews with experts and parents, we identify the subdimension(s) of each P-GenAIFL dimension and create items for them. Experts check these items for substantive and content validity. Parent feedback help us refine the items. The parents/caregivers of 300 junior secondary students in Hong Kong will pilot test and semi-finalize the P-GenAIFL instrument. In the main study, another 300 parents will collect their children's school grades and complete the P-GenAIFL. Using these P-GenAIFL responses, we determine the dimensionality of the P-GenAIFL items, each item's quality, each subdimension's reliability, and the scales' external validity (against actual daily practices) in our Rasch model. Next, we assess their P-GenAIFL profiles and test whether P-GenAIFL is linked to their children's school grades via structural equation modeling, accounting for the nested data structure. Pilot study data will be utilized in the main analysis if at least four items per subdimension remain, as common items to link the pilot and the main scales. Scholars will use our validated P-GenAIFL instrument to conduct quantitative studies determining the antecedents, mechanisms, and moderators of parents' P-GenAIFL across contexts. Our findings regarding the local P-GenAIFL profiles and its link to students' learning outcomes will inform (a) stakeholders seeking to understand Hong Kong parents' P-GenAIFL strengths and weaknesses and (b) corresponding parent intervention programs to boost students' learning.