

Tutor-Marked Assessment Question 1:

**Teaching Seniors in a Digital Age: A Critical Examination of Social Distribution of
Cognition and Geragogy in Singapore's Seniors Go Digital Programme**

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Introduction

The deployment of senior-centric, one-to-one coaching model for the Seniors Go Digital initiative is not only effective in achieving the intended learning outcomes but the approaches greatly align with my teaching philosophy.

The Seniors Go Digital Initiative

Seniors Go Digital: A National Initiative

Infocomm Media Development Authority (IMDA) introduced the Seniors Go Digital programme during the Covid-19 pandemic to impart seniors, aged 55 and above, with basic smartphone operation knowledge and digital security concepts (cognitive), use apps like WhatsApp and Zoom for communication and online banking to make e-payments at hawker centres and wet markets confidently (psychomotor), and to be more confident in using digital tools, such as SingPass for transacting with government services online, and less technology anxious (affective) (IMDA, 2024).

Each week, at Ang Mo Kio Group Representation Constituency Cheng San ward, I coached about five unique seniors and over 90% were Chinese-speaking but most understood basic English. They have up to Secondary Two education and with varying levels of technology anxiety and digital literacy. Most of them either had never used smartphones before or relied on basic feature phones, but all were motivated by pandemic isolation and the desire to connect with others.

The implementation of the programme was senior-centric. Sessions were held at community clubs (CCs) during the operating hours, seven days a week, in one-hour slots with

one-to-one coaching done in English or vernacular languages depending on learner preference using seniors' smartphones. Seniors could attend the sessions at any CCs, and they chose the topics they would like to learn and their preferred Digital Ambassadors (DAs) if they were frequent attendees. The pace of the session was adopted for the seniors according to their competency levels and were done with patience and strong emotional support to reduce their learning anxiety and frustration. Their progress for every session was logged in the Customer Relationship Management System for tracking.

Impact of the Seniors Go Digital Programme

In October 2022, Mrs Josephine Teo, Minister for then Communications and Information, updated Parliament that more than 190,000 seniors had been trained under the Seniors Go Digital programme, up from 150,000 in August the same year (Low, 2022). The inaugural Singapore Digital Society Report 2023, published in November, reported increased digital skills acquisition and effective skill transfer enabling seniors' greater financial independence (IMDA, 2023).

Table 1

Digital Adoption and Online Activities Among Seniors between 2017 and 2022 (IMDA, 2023)

Metric	2017	2018	2022
Using communication tools online	87%	-	92%
Smartphone ownership	-	74%	89%
Using e-payment for online transactions	-	38%	78%

The Covid-19 pandemic has pushed technology to the forefront, accelerating Singapore's Smart Nation goals. The Seniors Go Digital programme is successful because correct teaching and learning approaches that built on sound adult learning theories were

deployed. The two primary teaching and learning approaches are: social distribution of cognition and geragogy.

Two Different Teaching Approaches

Availability and convenience removed the first barrier to learning. While there was a prescribed set of digital skills that we had to teach the seniors, anything outside the scope was up to our discretion. I adopted the following approaches that I thought were the most appropriate, effective and followed my teaching philosophy.

Approach 1: Social Distribution of Cognition via One-to-One Coaching

The programme required seniors to use their own smartphones during one-to-one coaching sessions. While some arrived without devices and were turned away, most complied. A few expressed frustration that phones were not provided but generally accepted the policy after it was empathetically explained. Although this rule might have discouraged those without smartphones, it was vital for authentic learning and enabled effective social distribution of cognition.

The social distribution of cognition approach views intelligence as distributed across persons, situations and artifacts other than residing solely in an individual's mind (Pea, 1993). Using this model, learning is achieved through interaction between DAs, seniors, and seniors' smartphones. This approach was carried out during the sessions where seniors were engaged in guided participation, a core foundational component of cognitive apprenticeship¹, and the DAs provided a "supported situation" that allowed them to perform tasks that they could not yet achieved autonomously (Pea, 1993). I was actively directing the seniors' cognitive

¹ Cognitive Apprenticeship is a social mechanism where a novice is supported by an expert while engaging in authentic, complex and cognitive tasks. In this situation, the novice is the seniors and the Digital Ambassadors providing the learning are the experts. The learning is considered complex as the seniors have no prior knowledge in operating a smartphone.

processes as “external executive” through the new digital steps despite the latter’s limited working memory (Schnotz & Kürschner, 2007). By strictly enforcing the “using own smartphone” rule, I used material distribution where the device interface acted as a “smart tool” that offloaded complex reasoning and reduced potential errors (Pea, 1993; Karasavvidis, 2002). This also provided the seniors authenticity, familiarity and opportunities to practice after the sessions.

Overall, the social distribution of cognition approach is highly successful. For psychomotor objectives, this approach is highly successful because I could scaffold and adjust coaching intensity according to the seniors’ progress. Using the seniors’ own smartphones ensured that learning is situated in the actual environment, facilitating the transfer of skills to independent use (Stein, 1998). For cognitive objectives, one-to-one coaching allowed me to monitor seniors’ intrinsic cognitive load and break down difficult concepts, such as digital security, into manageable knowledge chunks that their working memory could process into long-term schemas (Medical College of Wisconsin, 2022; Sweller, 2011), achieving moderate to high success. Many DAs were not many years younger than the seniors and acted as role models. They were the “more knowledgeable other” who mitigated the stereotype threat, that the seniors are inherently “bad with technology”, by validating their potential through successful joint action (Sweller, 2011).

Approach 2: Geragogy

Geragogy was implicitly applied. It is a learner-centred approach, tailored to seniors’ physical, cognitive, and emotional needs (Findsen & Formosa, 2011). It is executed through one-to-one coaching, bilingual delivery, emotionally supportive facilitation, and contextually meaningful content anchored in seniors' daily lives.

The programme's geragogical principle of presenting limited ideas clearly (Bulbul et al., 2022) is reflected by the cognitive learning outcomes of the focused curriculum (WhatsApp, Zoom, SingPass, e-payments). But it is difficult for digital education programmes like this to ascertain if conceptual understanding, especially digital security, had been internalised or merely demonstrated in the moment because there was no systematic evaluation (Schirmer et al., 2023). The limited session frequency also raised questions about whether cognitive gains could be sustained over time.

For psychomotor outcomes, the approach was most effective. Coaching seniors on their own smartphones ensured direct transfer to real-life contexts, consistent with Callahan et al.'s (2003, as cited in Pihlainen et al., 2021) finding that task-oriented, contextually grounded training optimises senior learner performance. The one-to-one format effectively replicated Pihlainen et al. (2021) findings that skills acquisition was the most reported benefit across all participant groups (48% of responses), and that problem-solving in a supportive environment reduced the shame and fear of losing face that typically suppresses seniors' help-seeking behaviour.

Hestyan et al. (2025) identified lack of self-confidence and technology anxiety as the internal barriers preventing seniors' learning, which the programme had directly addressed by emphasising on patience and support, leading to successful affective outcomes. The seniors' intrinsic motivation to learn, and thus the programme's success, was partly due to the pandemic as Bjursell (2019, as cited in Hestyan et al., 2025) noted that socialising and staying connected are main drivers of seniors learning engagement.

The geragogy approach allowed the programme to achieve its psychomotor and affective goals convincingly but its cognitive outcomes remain unverified because one-to-one

coaching removed the community-building potential that geragogy promises at its fullest potential.

Unintended Learning Outcomes of Seniors Go Digital Programme

From Social Distribution of Cognition via One-to-One Coaching

Beyond the intended cognitive and psychomotor goals, the social distribution of cognition approach generated several unintended outcomes. Positive unintended outcome includes the development of metacognitive awareness. Negative unintended outcomes include equipment-based exclusion reinforcing digital inequality, over-reliance on device-specific learning that limits transferability.

An unintended positive outcome of this approach was the emergence of metacognitive awareness where seniors developed a conscious understanding of how they learn, not merely what they learned. As I actively directed seniors' cognitive processes by breaking complex tasks into manageable chunks (Sweller, 2011), they were implicitly exposed to a structured mental model for approaching unfamiliar digital problems. Over time, this scaffolded experience may have enabled seniors to internalise problem-solving strategies independently, applying them beyond the coached tasks. The cognitive apprenticeship structure not only allows skills transfer but also cultivated a learner disposition beyond the session's content where awareness of unfamiliar digital challenges can be systematically navigated (Pea, 1993).

The "own smartphone" rule, pedagogically sound for authentic learning and situated cognition (Stein, 1998), produced a significant unintended negative outcome: the silent exclusion of the most digitally marginalised seniors that the programme sought to reach. Seniors lacking both device ownership and the confidence to seek clarification beforehand were systematically excluded from participation. This reproduces the very digital divide the programme aimed to address. The benefits of digital skills training now rest on the premise of

reliable device access (Pihlainen et al., 2021). The social distribution of cognition framework itself acknowledges that learning is distributed across persons, situations, and *artefacts* (Pea, 1993) and when the artefact is absent, the entire system collapses. This outcome was due to the policy rather than the approach.

While using seniors' own smartphones ensured situated learning and facilitated skill transfer (Stein, 1998), it also introduced an unintended constraint of tightly coupling learning to a specific device interface, operating system, and application version. Seniors who subsequently changed phones, updated software, or needed to use a family member's device may have found their learning less transferable than anticipated. Schnotz & Kürschner (2007) note that learners may develop device-dependency rather than genuinely portable competencies. The "smart tool" efficiency of the own-smartphone approach (Pea, 1993; Karasavvidis, 2002) may have inadvertently narrowed the generalisability of skills acquired, undermining the longer-term independence that both the psychomotor objectives and the geragogy approach sought to build (Hestyan et al., 2025).

From Geragogy Approach

Beyond the intended outcomes, the geragogy approach likely generated several positive and negative unintended outcomes that deserve critical examination. Positive and negative unintended outcomes include increased social identity as a "digital citizen," and digital anxiety displacement (shifting of fear from devices to online scams) respectively.

One significant unintended outcome was the potential reshaping of seniors' concept of self. When seniors learn skills, they become motivated to stay relevant and identify themselves as active citizens in a digital society (Costa et al., 2019 as cited in Pihlainen et al., 2021). This shift in social identity was not an intended outcome of the programme but emerged organically from the learning process. For example, a senior who masters SingPass transactions may

internalise this as evidence of continued agency and competence, reinforced his *identity capital* and strengthened his self-image beyond the immediate psychomotor skill (Pihlainen et al., 2021). This represents one of geragogy's deeper values of supporting self-actualisation in later life (Bulbul et al., 2022).

The geragogy approach may unintentionally displace technology anxiety instead of resolving it. A senior who gains confidence in WhatsApp may simultaneously develop heightened anxiety about digital scams even though it was covered under digital security. Geragogy's supportive environment alone may not be sufficient to address deeply entrenched internal barriers (e.g., fear and negative prior experiences) systematically (Hestyan et al., 2025). Without structured psychological scaffolding, introducing concepts like online fraud to an already anxiety-prone population risks amplifying the opposite of the affective outcome intended from vigilance to the point of avoidance.

Conclusion: My Teaching Philosophy

Both the social distribution of cognition and geragogy approaches are lived expressions of my belief that teaching is most powerful when it begins where the learner stands and reaches toward who they can become. My teaching philosophy holds that genuine learning happens when learning is translated into agency. The social distribution of cognition approach embodies this by situating learning within seniors' actual lives and devices, ensuring that what is learned in the session becomes immediately usable beyond it. Pea's (1993) framework of intelligence distributed across persons and artefacts resonates deeply with my conviction that the right environment and tools are needed to unlock existing potential of a learner. Geragogy's insistence on emotional safety, individual dignity, and meaningful tasks mirrors my belief that every learner deserves to be met with humanity, not just instruction. It mirrors my belief that a learner who feels seen and respected learns a renewed sense of self. Geragogy's deepest value

lies in fostering self-actualisation and empowerment as outcomes that extend far beyond the immediate learning (Hestyan et al., 2025). Negative unintended outcomes (i.e. device-dependent learning, exclusion of the most marginalised, and displaced anxiety) remind me that no approach is complete without critical reflection. Good teaching demands not only effective delivery but honest reckoning with what our methods inadvertently produce. Ultimately, both approaches affirm my core belief: that success as an educator is measured not by what learners can demonstrate in a session, but by who they become - and what they choose to do - long after learning ends.

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