Direct and Indirect Effects of Independent Language Skills on the Integrated Writing Performance of Chinese-speaking Students with Low Proficiency

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EFFECTS OF LANGUAGE SKILLS ON IW PERFORMANCE

Abstract

Integrated writing is increasingly used in language assessment programmes. As a hybrid task, it requires students to coordinate different language skills, i.e. listening, reading and writing, to retrieve information from multiple sources, and compose an essay for a specific purpose. Tapping into the varied skills that contribute to successful integrated writing is especially beneficial for low proficiency students. However, the mechanisms underlying the impact of these skills on integrated writing performance have yet to be thoroughly studied. This study sampled 103 first-year undergraduate students in Hong Kong who showed relatively low proficiency in Chinese language. They completed three independent tasks measuring their listening, reading, and writing skills; an integrated listening-reading-writing task; and an integrated writing strategy use questionnaire. The results indicated that together, the independent skills accounted for 29.5% of the variance in integrated writing performance, suggesting that integrated writing is a skill that goes far beyond the simple combination of listening, reading, and writing. Independent writing showed the strongest correlation with integrated writing, while both independent listening and independent writing exerted direct and indirect effects on integrated writing performance. However, the effect of reading on integrated writing performance was insignificant, even though the two were significantly correlated. These results offer insights into the complex relationships between the skills. The findings enrich our understanding of the construct of integrated writing, as well as suggest strategies for teaching less proficient learners.

Keywords: integrated writing, independent writing, independent reading, independent listening, direct and indirect effect

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Introduction

Learning to integrate multiple sources of information and make appropriate written responses has become increasingly important both in and outside school (Bråten, Anmarkrud, Brandmo, & Strømsø, 2014), as evidenced by the increasing use of integrated writing (IW) in language assessment programmes. IW is a hybrid task requiring students to coordinate different language skills, i.e. listening, reading, and writing, retrieve information from multiple sources, and compose an essay for a specific purpose. Most research on IW performance has studied heterogeneous groups, including high- and low-proficiency students (e.g. Solé, Miras, Castells, Espino, & Minguela, 2013; Trites & McGroarty, 2005). However, the use of such a population may obscure patterns that exist among low proficiency students. Other scholars have sought to identify the challenges faced by less competent readers and writers, but they mainly focused on reading and writing as standalone tasks (e.g. De Milliano, 2013; Zohar & Dori, 2003), neglecting the integration of various modalities. Moreover, these studies have targeted adolescent language learning, paying less attention to higher education. However, university students are frequently required to incorporate ideas from various reading materials and then construct their own arguments by writing a course essay. Therefore, it is urgently necessary to study the IW performance of low-proficiency university students.

Despite the widespread usage of IW tasks, some theoretical and practical issues remained unresolved. In terms of theory, because multiple independent skills are

involved in IW tasks, the relationships between independent and integrated skills in this context are uncertain, despite the ongoing efforts to form associations between various language skills and IW skills (e.g. Asención Delaney, 2008; Author, 2018; Sawaki, Quinlan, & Lee, 2013) and examine the use of independent skills to complete IW tasks (e.g. Author, 2020; Li & Casanave, 2012; Plakans, Liao, & Wang, 2019) in first language (L1) and second language (L2) contexts. Previous studies have indicated that students tap into their reading skills to perform IW (e.g. Author, 2018; Solé et al., 2013), with proficient L1 students effectively deciphering the main ideas in the source texts and their weaker L2 counterparts tending to transfer the information read directly into their writing responses. For students with low L1 proficiency, it remains unclear whether reading skills make the same contribution when combined with other independent skills during the IW process. In practice, it has often been assumed that low-proficiency students have more difficulty manipulating multiple skills when completing IW tasks than their more able counterparts do. With the rising number of students attending higher education globally, it is of concern that there is also an increase in less proficient students facing writing challenges. Therefore, it is worth investigating whether independent skills have an impact on IW performance and whether IW strategy use mediates this process.

The majority of IW studies have focused on English as L2 settings, such as the Test of English as a Foreign Language (TOEFL iBT). Few studies have addressed Chinese as an L1, and to the best of our knowledge, none have focused on students with low L1 proficiency, perhaps due to assumption that students experience no issues when simultaneously manipulating various language modalities in their L1. However, the effective composition abilities of an integrated piece of writing challenges both the cognitive abilities and linguistic resources of students. Therefore, assuming that all L1

students are capable of performing well in IW tasks may adversely affect students' academic achievement.

In Hong Kong, students must attain a language proficiency threshold in written Chinese and spoken Cantonese as a prerequisite for university admission. However, those who merely meet (rather than exceed) this threshold may struggle in their academic disciplines. The main purpose of this study was to identify factors that improve low-proficiency students' IW. Specifically, this study aimed to examine the effects of independent skills on IW, and determine whether such effects are direct or mediated by strategy use.

Literature Review

Relationships Between Independent Skills and Integrated Writing

Despite criticisms of the lack of finite constructs for IW due to overlapping requirements with other independent tasks (e.g. Asención Delaney, 2008; Weir, 2005), recent studies have generally indicated that IW is a multi-dimensional construct with unique feature of its own (e.g. Guo, Crossley, & McNamara, 2013; H.-C. Yang, 2014). Therefore, the next question concerns the effects of the various independent language skills on IW task performance. Answering this question will inform teaching and assessment, and help guide the design and development of authentic language tasks.

Relationship Between Reading and Integrated Writing.

To comprehend a text, readers must construct a text base and integrate information within and beyond the text (Kintsch, 1988, 1998). Sub-reading comprehension skills literal, inferential, and evaluative comprehension (Basaraba, Yovanoff, Alonzo, & Tindal, 2013) are essential for students to access and make proper use of sources. Most studies have shown that during IW, higher-scoring writers tend to

show a better understanding and evaluation of the reading materials than lower-scoring writers do (e.g. Author, 2018; Cumming et al., 2005; Solé et al., 2013). Solé et al. (2013) studied the relationship between written syntheses of history texts and the degree of comprehension, and showed that low-performing writers had low levels of comprehension and tended to copy ideas from the reading materials. This seems to imply a correlation between reading and IW. However, Trites and McGroarty (2005) suggested otherwise. They explored the performance of native speakers with high, medium, and low levels of reading ability by conducting discriminant analysis of different measures of reading comprehension. They found that just over half (52%) of the low reading ability group members also recevied low scores for the *Reading to Learn* and *Reading to Integrate* composite, indicating that these students approached the relatively complex *Reading to Learn* and *Reading to Integrate* tasks differently from basic comprehension. Comparing the work of L1 and L2 students, Hyland (2009) found that longer L1 papers contained more direct references to the reading materials, both appropriately documented and undocumented, than L2 papers did. In follow-up interviews, the L1 students admitted that they had modelled their essays on the reading materials when they had no prior knowledge of the topic, whereas the L2 students reported more strategic behaviours in approaching the reading materials. Although the above studies indicate a correlation between independent reading performance and IW performance, this effect may be weaker if low-proficiency students are the target research population. Moreover, the studies above focused on the contributions of reading alone to IW; its effect when interacting with other independent language skills has yet to be verified.

Relationship Between Listening and Integrated Writing.

Listening comprehension is a complex skill that requires students to not only understand spoken vocabulary and their various combinations but also draw on higher-level sub-skills such as making inferences (Kim, 2016). To the best of our knowledge, only a few studies have examined listening-reading-writing tasks. In the context of Hong Kong Chinese language education, Author (2016) conducted a study requiring 226 Secondary Five students to write an argumentative essay after reading and listening to source materials. Explaining 8.9% of the variance in the total score for IW performance, listening comprehension made weak but significant contribution to IW performance. Further comparison suggested that reading comprehension, not listening skills, significantly predicted IW performance (Author, 2018). As L1 research in this area was limited, we also reviewed L2 studies, which yielded different results. Plakans and Gebril (2013) found that the ability to use listening source materials showed a high correlation with students' performance in a TOEFL listening-reading-writing task (r = 0.69). Nevertheless, the above studies were conducted with heterogeneous populations, and none revealed the extent to which students with low L1 proficiency depend on their listening comprehension skills when approaching an IW task.

Relationship Between Independent Writing and Integrated Writing.

An independent writing task requires students to express their ideas on a topic introduced by a short written prompt. Borrowing terms from Bereiter and Scardamalia (1987), Chan (2017) suggested that successful writing tasks can be conceptualized as "knowledge transformation", involving high-level processes such as task representation and revision, to generate new representations based on existing facts and ideas. The difference between the two forms of writing is that independent writing depends solely on the writer's memory, whereas IW involves a discourse synthesis process (Spivey, 1984, 1990) that integrates the source materials with the writer's prior knowledge.

Empirical research has also suggested that the two forms of writing involve similar processes, including planning, writing, and revising; however, these processes are more complex for IW tasks (Cumming, Lai, & Cho, 2016). Vandermeulen, van den Broek, Van Steendam, and Rijlaarsdam (2020) reported that a pattern of switching between texts during the initial stage of IW could significantly predict secondary school students' performance (N = 294) in informative writing. The students were also found to take notes while reading, listen to sources (for comprehension) or reread materials to ensure writing accuracy (for composition) during the writing process. Previous studies (mostly in L2) suggested independent writing was highly correlated with integrated writing (e.g. Lewkowicz, 1994; Shin & Ewert, 2015; Watanabe, 2001). For instance, Watanabe (2001) found that independent writing and reading skills accounted for 35-40% of the variance in two reading-to-write tasks. However, an opposite result was found by Asención Delaney (2008) who claimed that reading was more important than writing in an integrated reading-to-write task. In Yu's (2008) study, 157 undergraduate students' summarization performance in both English (L2) or Chinese (L1) were significantly predicted by their TOEFL reading comprehension performance rather than writing performance. Similar to the relationship between independent listening skills and integrated writing task performance, research that compares independent writing and integrated writing in the L1 context is limited, and therefore we consulted L2 research which may inform about low L1 proficiency students' performance. Most of them indicated that L2 and low proficiency language learners face greater difficulties formulating appropriate task representations than their native-speaking or high proficiency counterparts (Asención Delaney, 2008; Cumming et al., 2016). Evidently, studies have offered fewer insights into the relationship between independent writing and IW than that between independent reading and IW.

To summarize, in the above studies, each independent skill was documented as being connected to IW performance; however, the effects of combining these skills on IW were not always clear. Most of the studies considered two independent skills, such as reading and writing, or reading and listening; less is known about their effects when three or more independent skills are included. Moreover, although correlations or regression analyses have been used to indicate the weight of influence of each independent skill, the paths of their impact on IW remain unclear. To thoroughly understand the relationships between these skills, further investigation is warranted.

The Role of Integrated Writing Strategies in Connecting Independent and Integrated Language Skills

Defined as the "conscious, deliberate use of a specific method" (Hartman, 2001, p. 33), strategy use encompasses both cognitive and metacognitive components. Many studies have documented that students must master an adequate number of strategies to overcome problems encountered in language learning (e.g. Cohen, 2010; Oxford, 1990). Students who possess a higher level of proficiency in one independent skill tend to be better strategy users in that domain; therefore, this trait can be used to distinguish between good and poor readers (Alexander & Jetton, 2000; Pressley & Afflerbach, 1995), listeners (Goh, 2000; Vandergrift, 2007) or writers (Bereiter & Scardamalia, 1987; Flower & Hayes, 1981).

The effects of strategy use in more complicated tasks, such as IW tasks has been heavily studied. The influential studies conducted by Spivey (1984, 1990) highlighted that three types of cognitive strategy emerged when writers compose essays in reading-to-write tasks: organizing (comprehending the source materials), connecting (connecting ideas across in both reading and writing), and selecting (determining

appropriate ideas for use in the essay). Other studies have proposed more strategies, such as monitoring, structuring and elaborating on ideas (Ruiz-Funes, 2001; L. Yang & Shi, 2003). Based on think-aloud data obtained from secondary school students in integrating information from historical texts, Solé et al. (2013) found that higher-performing students' transition from comprehension to synthesis was more subjected to greater mediation by three strategies: rereading, planning, and revising. Extending previous studies, H.-C. Yang and Plakans (2012) quantitatively explored the structure of IW strategies through a structural equation modelling approach. The three types of strategy identified were self-regulatory (e.g. monitoring and evaluating), discourse synthesis (e.g. organizing, selecting and connecting), and test-wiseness (e.g. copying and patch-writing) strategies. The discourse synthesis strategy had a positive and direct effect on IW performance and the self-regulatory strategy had an indirect effect, mediated by the discourse synthesis strategy. Goldman, Braasch, Wiley, Graesser, and Brodowinska (2012) compared high- and low-performers' strategy use in a read-to-learn activity, as measured by a multiple-choice test and written essay based on multiple Internet sources. Through in-depth think-aloud analyses, they asserted that low scorers were less able to make sense of the source materials, engaged in less self-explanation, and used fewer comprehension-monitoring strategies. Therefore, we can assume that IW strategies enhance students' engagement by promoting higher-quality interactions between the independent skills.

Recently, researchers have noticed that strategy use can serve as a mediator between some cognitive factors and IW-related skills. Studying a group of Norwegian secondary school students, Bråten et al. (2014) reported that variables such as the need for cognition and prior knowledge exerted an indirect impact through the mediation of deeper level strategies (e.g. comparing and contrasting information across texts) on task

performance in a writing after reading multiple texts. Using a think-aloud methodology, Anmarkrud, Bråten, and Strømsø (2014) found the students' strategic behaviour (identifying and learning important information, monitoring, and evaluating) enhanced their reading comprehension ability, as evidenced by more explicit source citations and connections with sources in the essays they wrote. Du and List (2020) analyzed a large bundle of data on undergraduate students' IW processes (e.g. log data, notes) during computerized writing-after-reading the multi-text task. They observed that the students failed to connect information across notes taken and between their notes and written responses. To enhance such connections, strategy use proved to be a denotative predictor of writing performance. In sum, studies have suggested that strategies may be important predictors of IW performance. If low-proficiency learners receive more support for their strategy use, they will probably more efficiently procure the information they need for writing.

Research Context and Research Questions

A group of freshmen at a medium-sized university in Hong Kong participated in this study. Hong Kong has adopted a policy aimed at equipping students with biliterate and trilingual language skills for effective communication in response to the needs of society and their future work. Cultivating effective communicators is an aim common to all universities in Hong Kong. To help attain this goal, students need to be proficient in written Chinese and spoken Cantonese. All undergraduate students are therefore required to take at least two or three subjects related to the Chinese language. For university admission, students need to attain a minimum of Level 2[1], or the

[1] The HKDSE adopts Standard-referenced Reporting for test-takers. Students' performance in each subject is reported using a five- level scale with level 5 being awarded to best-performing students and level 1 indicating "Unclassified." The scale is applied in each test paper and an overall level is also generated based on students' performance in all test papers.

equivalent in a Chinese language subject in the Hong Kong Diploma of Secondary Examination (HKDSE), Hong Kong's university entrance examination. From 2007 to 2016, the HKDSE included five test papers: reading, writing, listening, IW, and speaking. This examination structure was designed to incorporate new concepts into teaching and assessment and more comprehensively assess language competency. The IW task was designed to test students' ability to integrate information from multiple sources (both listening and reading materials) and their higher-order thinking skills. In 2016, the HKDSE underwent a mid-term review. One of the major concerns was that there were too many test papers for effective administration. Therefore, the listening paper and the IW paper were combined as one paper with two parts. In the first part, students listen to an audio recording and answer multiple-choice questions that test their listening comprehension. They are also permitted to take notes. In the second part, students are given an integrated writing task prompt and reading materials. Using the information presented in the audio recording and reading texts, the students attempt the IW task based on the writing prompt. The IW task in HKDSE provides both listening and reading materials as sources, and represents a variant of IW task type.

In view of Hong Kong's language policy, the level of students' integrated skills is of great concern to educators at both universities and secondary schools. However, according to our research, students at both education levels may find it difficult to complete IW tasks (Author, 2018; Author, 2019). Undergraduate students are required to read widely to enhance their knowledge. Notably, there is a concern that students who only marginally meet the university entrance language requirements may face greater challenges. Moreover, many secondary school teachers argue that it is redundant for students to take multiple test papers. They question the necessity of taking an IW test on top of the independent reading and writing tests (Author, 2013). It was therefore

essential to conduct this study, enhance both research and practice regarding IW skills. We recruited a cohort of freshmen who had just graduated from secondary education and were transitioning to higher education. Based on the literature outlined above, we aimed to thoroughly explore the effects of independent skills on integrated writing performance, with a focus on the paths of transmission of independent skills to IW skills. Essentially, the research was guided by the following two questions:

1. What are the simultaneous effects of various independent skills on IW performance among low-proficiency students?
2. Do IW strategies mediate the relationships between independent skills and IW performance? If so, to what extent?

Based on the literature, we expected the three independent skills, i.e. listening, reading, and writing, to contribute simultaneously to IW performance. IW tasks can be cognitively demanding, as they require students to use multiple skills at the same time (Du & List, 2020; Martínez, Mateos Sanz, Martín, & Rijlaarsdam, 2015). If low performers deploy only one single skill (e.g. reading), they may face problems (Plakans & Gebril, 2017). In addition, we expected the strategy use to mediate the relationships between independent and integrated skills. Conducting mediation analysis allowed us to understand the "multiple mechanisms of influence in a single model" (Hayes, 2017, p. 183). Mediated or indirect effects, defined as a statistical causal chain effects in which one variable affects a second variable that in turn affects a third variable, and so on (Klein & Kirkpatrick, 2010), also shed light on the conditions required for the effective use of strategies. For instance, students can identify important points to include in their essay after accessing the task prompt and search for these points using either reading or listening skills. Accordingly, the strategy use was expected to help

students coordinate their listening and reading comprehension process effectively and retain information needed for the writing component (H.-C. Yang & Plakans, 2012).

In short, IW strategies help students to dynamically and iteratively deploy their independent skills. The use of independent skills during IW tasks is never static or solitary; instead, these skills are interwoven and inextricably linked (Cumming, 2014). The interactions between independent skills significantly influence the IW task performance. Although the literature has indicated the mediating role of strategy use in the integrated writing process, it is still unclear to what extent IW strategies mediate the effects of independent skills, especially in the case of low-proficiency students. This study examined both the direct and the indirect effects of independent skills on learners' IW performance via the mediation of IW strategies.

Methodology

Participants

The sampled students took a university-wide subject entitled "Fundamentals of Chinese Communication", which was provided for students with relatively low Chinese proficiency (i.e. those who had attained only Level 2 or 3 in the HKDSE). The subject aimed to enhance students' communication skills and foster independent and lifelong language learning. In classes, various language tasks were set, such as drafting a proposal for a company and reading news articles.

The participants were from six academic departments, namely engineering, tourism, logistics, nursing, business, and social science, making the sample representative of the student population. Initially, 121 students joined the study voluntarily. However, 18 students withdrew from the project for personal reasons, leaving 103 participants in total, comprising 64 male students and 39 female students.

Their age range was 17-20 years, and their average age was 18.74 years. With the exception of 5 non-reporting cases, 93 students had achieved Level 3 in the HKDSE, 3 had achieved Level 2, and 2 had achieved Level 4. All of them were Hong Kong students whose native language was Cantonese.

Instruments

Three independent tasks and one IW task were set in this study. The development of the tasks was generally consistent with the HKDSE guidelines. The authors of this paper and three Chinese language teachers convened on three occasions of approximately two hours each, to design and develop the test materials, including the test items, audio tapes, and reading texts. Each of the three teachers had at least 5 years of experience of teaching Chinese and designing relevant university courses to meet language and communication requirements. The appropriateness of the text content, genres used, students' familiarity with the question types and format, time limit, etc. were discussed and finalized. The main goal of the meetings was to ensure that none of the above would confound measurements of the students' performance. For instance, based on the teachers' feedback, we revised a paragraph of the independent listening material because it contained too many long sentences. This would have made it difficult to grasp the ideas expressed in the audio recording. The clarity and precision of the reading texts and questions were also checked.

Reading Task.

The reading task contained two argumentative passages. The first passage was 1,019 Chinese characters in length and was entitled "A Discussion of Balancing between Individual Freedom and Public Order". The second passage was 1, 083 Chinese characters in length and was entitled "A Critique of Examination-oriented

Education System". Each passage was followed by six or seven short-answer questions (see Appendix 1). The reading task was developed using the "Six Types of Reading Comprehension Processes" proposed by Author (2018). The number of items and sub-score for each reading skill was as follows: retrieving (two items, eight points), explaining (three items, six points), summarizing (one item, six points), elaborating (three items, 15 points), evaluating (two items, nine points), and creating (two items, six points). The full score for the task was 50. The whole reading task lasted for about 40 minutes. Cronbach's alpha was 0.65 for the reading task, indicating acceptable reliability (Hair, Black, Babin, & Anderson, 2019).

Listening Task.

A listening task was used to assess the students' competence in listening comprehension. The listening materials consisted of two parts. In Part 1, an expert gave a speech lasting for approximately nine minutes, on the value and history of preserving cultural relics. Part 2 was a question-and-answer session following the speech on the same topic lasting for about four minutes. After listening to the recording, the students were given 15 minutes to respond to 15 items, including multiple-choice and short-answer questions (see Appendix 2). These items were designed based on the "Six Listening Types" framework, which has been widely used in the development of public examinations in Hong Kong (Author, 2016). The number of items and the sub-score for each listening skill were as follows: memorizing (two items, five points), explaining (two items, three points), summarizing (three items, three points), elaborating (four items, six points), evaluating (two items, eight points) and creating (two items, seven points). The full score for the listening task was 32 points. The duration of the complete listening task was approximately 35 minutes. Cronbach's alpha for this test was 0.66, which was within an acceptable range.

Writing Task.

The independent writing task was designed with a communicative purpose, audience, and context. The prompt was as follows:

> *The student union collaborated with an education-sponsoring charity group to hold a charity show during the Christmas season to raise money for the tuition of under-privileged students. The charity show initially invited the singer Mr. Liu to take part. However, Mr Liu was injured in another performance and thus was unable to attend. After discussion with the charity group, the student union decided to approach another popular singer, Mr. Wong. Please write an invitation letter in the name of a student union representative that explain the purpose of the charity show, the short notice due to the last minute change, and provide the details of the event.*

The students were given one hour to compose an invitation letter using a maximum of 600 Chinese characters. The context and purpose of the task were verified by the three experienced Chinese teachers. The full score for the writing task was 100. Similar to Delaney's (2008) rubric for measuring independent writing skills, the grading criteria were (1) content (50 points), (2) language and expression (30 points), and (3) organization and format (20 points). To achieve a good score, the students had to explicitly show an awareness of the audience, provide background information, make persuasive suggestions, and use proper language conventions. This test had an acceptable Cronbach's alpha value, 0.67.

Integrated Writing Task.

The IW task required the students to write an essay for publication in a local newspaper that stated their opinion on installing cameras in taxis. The materials

included a five-minute audio recording, five reading passages of 3,140 Chinese characters in total, and a prompt asking them to make suggestions based on the listening and reading materials. The writing prompt was an invitation to submit an article to a local newspaper. The audio recording was a conversation between a radio host and an audience about whether the installation of cameras in taxis would improve service quality. In their conversation, both the advantages and the disadvantages of the proposed measure were mentioned. The five reading passages were as follows: (1) a news report regarding diverse opinions on installing cameras in taxis (732 characters); (2) a news report on a gathering held by Hong Kong taxi drivers to mourn the death of a fellow taxi driver who had died of a heart attack while chasing a customer who had refused to pay the taxi fare (1,014 characters); (3) a government report on the distribution of CCTV in Hong Kong's public transport system (548 characters); (4) a news report on the taxi drivers' union urging the legislation department to protect taxi drivers during night shifts (377 characters); and (5) a news story on the use of a mobile phone app called Grab to protect taxi drivers and their customers in Malaysia (469 characters). The listening and reading sources provided complimentary and contradictory perspectives. The audio recording provided background information and both stances were voiced in the conversation. Reading material (1) specified the audience of the students' writing. The rest of the materials were either for or against the installation of cameras in taxis. For instance, both reading materials (2) and (3) included information regarding the need to install CCTV in taxis and the subsequent risk to customers' privacy. The students were allowed to take any stance as long as they used both the appropriate materials and their ideas to construct their arguments.

The task was to compose an article of no fewer than 600 Chinese characters in approximately 70 minutes. When investigating the construct of the integrated listening-

reading-writing task used in public examinations in Hong Kong, we validated the "Four Traits" framework (Author, 2016), covering *contextual awareness* (i.e. considering the context and audience and deciding on the appropriate register for the writing; IW1); *citation and synthesis* (i.e. comprehending the sources and synthesizing the ideas selected for the essay; IW2); *original opinion and argument* (i.e. inferring from the sources and developing original arguments based on substantiated evidence; IW3); and *written expression and organization* (expressing ideas clearly and coherently; IW4). This framework was adopted as the marking scheme for the study and was the same as that used by Author (2018). The four indicators (or "traits") included in the marking scheme were further analyzed. (1) *Contextual awareness* was measured in terms of identity of the writer and the audience, and the writing context; (2) *Citation and synthesis* were measured in terms of the students' ability to cite their sources and synthesize their ideas; (3) *Original opinion and argument* were measured in terms of the students' expression of original ideas and coherent and well-substantiated arguments; (4) *Written expression and organization* were measured in four dimensions, namely tone, interaction, language use, and organization. The full score was 40. Cronbach's alpha for this test was 0.80, indicating good reliability.

Integrated Writing Strategies Questionnaire.

An IW strategies questionnaire (IWS) was developed to investigate the students' self-reported strategy use while undertaking IW tasks. It was based on a questionnaire developed by H.-C. Yang and Plakans (2012), which included 24 items covering 3 sections correspond to the strategies used by students to complete IW tasks in the initial, intermediate, and final stages. The original questionnaire was adapted to suit this study's task format (i.e. listening-reading-writing), research context (i.e. writing in L1), and research focus (i.e. focusing on cognitive strategies used to

coordinate the independent skills), and 5 items were added. The students responded to the items based on the frequency of use of these strategies to completing IW tasks, based on a 5-point Likert scale ranging from 1 (never) to 5 (always). The initial version of the questionnaire consisted of 29 items, of which 7 were later removed for the following reasons. (1) In a meeting with three experts, items 15 and 23 were deleted because they were very similar to items 16 and 21. (2) Before running the exploratory factor analysis (EFA), items 5, 12, and 13 were deleted because their correlations with most of the other items were less than 0.3. (3) During the EFA, a higher threshold for the significance of loading (loading > .05) was applied owing to our smaller sample size (Hair et al., 2019). Therefore, items 4 and 26 with factor loadings of less than .50 were also dropped.

The final version of the questionnaire comprised 22 items. The factor structure was extracted using the principal component analysis with varimax rotation. The results of the EFA are shown in Table 1 (Kaiser-Meyer-Olkin measure of sampling adequacy = .912, Bartlett's test of sphericity = 1,101.243, df = 231, p< .001).

<Insert Table 1 here>

As shown in Table 1, the four factors extracted by EFA tapped in different types of strategies. Factor 1 (seven items) comprised strategies for discourse connecting and organizing, whereby students built up connections intertextually and intratextually (listening and reading materials) and organized their ideas better in written form. Factor 2 comprised strategies for idea development, allowing students to select and use relevant ideas from the given materials or offer their own original ideas. Factor 3 comprised strategies for language monitoring, whereby students paid attention to their language expression regarding plagiarism and language mistakes. Factor 4 comprised

strategies for content monitoring, whereby students rechecked the content and ensured that their ideas were accurately presented and closely connected. In a subsequent analysis, we created four composite scores for the items (giving a total score for each set of items) corresponding to the respective factors of the IWS.

Rating Procedures.

A pilot study was conducted with 40 undergraduate students for all four tasks. The tasks and marking schemes were adjusted and finalized based on these results. For each of the four tasks, a set of reference samples for the students' answers was provided for rating. For all four tasks, each script was marked according to the respective rubric by two of the teachers who had participated in the first round of meetings to design the tasks. The teachers were experienced raters, as they had participated in a few of our previous studies. They first rated 30 scripts for each task individually and then reviewed the results, together with the three authors of this paper. This review meeting focused on the accuracy and consistency of the marking schemes. During the two sessions of two-hour meetings, we further detailed the marking schemes, created general guidelines and selected sample papers representing high-, medium- and low-scores. Discrepancies between the raters were also discussed to agree on scores. The inter-rater reliability was estimated using Spearman rank-order correlation coefficients (*rho*). The values for the six skills (indicators) in the independent listening task ranged from 0.82 to 0.93. For the six skills (indicators) in independent reading task, the inter-rater reliability ranged from 0.85 to 0.95. The inter-rater reliability for the three aspects (indicators) of the independent writing task ranged from 0.71 to 0.78. Finally, the inter-rater reliability for the four traits (indicators) of the IW task ranged from 0.68 to 0.82.

Data Analysis

The students' performance in all four language tasks and responses to the IWS questionnaire were input into SPSS 24 for analysis. Preliminary analyses, including the calculation of means, standard deviations, and correlations was conducted to produce an overview of the students' performance and strategy use. The normality was checked to meet the requirement for further analysis. To examine the effects of the independent skills (independent variables) on IW task performance (dependent variable), a linear regression model was performed using SPSS, followed by mediation analysis using Amos 24. We built a path model as hypothesized, using IWS as a latent variable. The latent IWS factor consisted of four indicators represented by the composite score of each factor extracted from EFA. To determine the model fit, we used the criteria set by Hu and Bentler (1999), i.e. the root mean square error of approximation (RMSEA) ($\leq$ 0.06), the standardized root mean square residual (SRMR) ($\leq$ 0.08), and comparative fit index (CFI) ($\geq$ 0.95). If the mediating role of IWS was confirmed, we further examined the effect size for each independent skill's indirect effect on IW task performance through IWS. This allowed us to more effectively decompose the various indirect effects of independent skills (Hair et al., 2019). To examine the significance of the various mediation effects, the bias-corrected bootstrapping method, a procedure for constructing resamples of the data using random sampling with replacements, was adopted to obtain a more precise estimation (Preacher & Hayes, 2008). In addition, other regression assumptions, such as collinearity, were checked. The "proportion mediated" (MacKinnon, Fairchild, & Fritz, 2007, p. 603) was also calculated to show the proportion of the total effect that was mediated.

Results

Descriptive Analysis

The total scores for the three independent skills, IW task performance, and IWS questionnaire were first calculated and analyzed. The mean, standard deviation, and scoring rate for each were computed and are presented in Table 2. As shown, the students performed least well in the reading comprehension test, and they scored more than 60% in the other tasks. In addition, the absolute values of skewness (less than 1) and kurtosis (less than 3) were examined, and all of the data were normally distributed (Hair et al., 2019). We also checked the potential outliers by examining their absolute standardized values and found they were less than 3, which is within an acceptable range (Hair et al., 2019).

Correlations Among Independent Skills, IW, and IW Strategy Use

The correlations between all of the variables used in this study are also presented in Table 2. The total scores for all three independent skills were significantly and moderately correlated with IW task performance, with *r* ranging from .340 to .448. The total score for independent writing had a higher correlation coefficient with IW task total score than either independent listening or reading did, seeming to indicate a particularly strong relationship between independent writing and IW performance. The total scores for the two receptive skills, reading and listening, showed significant correlations with IW task performance, with similar magnitudes (i.e. $r = .342$ and .340, respectively).

Among the three independent skills, whilst the relationship between independent listening and writing was not significant, there were significant correlations between listening and reading ($r = .308$) and reading and writing ($r = .360$).

Further analyses on the correlations between IW strategies, the three independent skills, and IW total score were conducted. The IW strategies were significantly correlated with IW task performance, at a relatively high level (r = .661). The IW total score also showed significant correlations with all four IWS factors, with r ranging from .475 to .640. The two receptive skills, given in the table as the Listen Total score and Read Total score, were also significantly correlated with IW strategies at a weak to a moderate level (r = .267 and .269, for listening and reading, respectively). However, it seemed that the fourth factor of IWS (i.e. strategies for content monitoring) was not related to the two receptive skills (listening and reading).

<Insert Table 2 here>

Predictive Power of the Three Independent Skills for Integrated Writing Skill

Based on the correlations outlined above, we further examined the contributions made by the independent skills (i.e., listening, reading, and writing) to IW task performance. A series of hierarchical regression models without the IW strategies was developed to examine the power of the three independent skills to predict IW performance. The three independent skills were entered into the models in a different order each time and the results are presented in Table 3. For these models, we calculated the variation inflation factors (VIFs). As a rule of thumb, a VIF greater than 10 indicates that multicollinearity exists among the independent variables. In our models, all of the VIFs were smaller than 2; therefore, we concluded that multicollinearity was not a concern.

As shown in Table 3, the three independent skills explained a total of 29.5% of the variance in IW performance; however, these three skills contributed to IW performance in different ways. Whilst the independent writing and listening skills

consistently and significantly predicted IW performance in all of the regression models, reading did not. When reading was entered ahead of the other two skills (i.e. models 3 and 4), it significantly explained 11.7% of the variance in IW (β = .342); however, its coefficient decreased substantially when writing or listening was entered as a skill in the second step in the model, and eventually lost its significance when all of the independent skills were entered. This may indicate that the contribution of the listening or writing skills to the variance in IW surpassed that of the reading skills.

<Insert Table 3 here>

To answer Research Question 1 concerning the effects of various independent skills on IW performance among low-proficiency students, we inspected the beta coefficients of the independent skills in step 3. Independent writing had the largest coefficient (β = .367, $p < .001$), followed by listening (β = .25, $p < .01$) and reading (β = .133, $p > .05$). As the beta coefficient indicates the degree of change in the outcome variable for every unit of change in the predictor variable, these values represented the total effect of each independent variable and dependent variable (i.e. IW) (Baron & Kenny, 1986). Therefore, writing skills had the largest effect on IW performance, followed by listening and then by reading.

Mediation Analysis

To answer Research Question 2 concerning the mediating effects of IWS on the relationships between independent skills and IW task performance, we ran a mediation model based on our hypotheses. The latent variable of IWS, comprising four indicators represented by the composite score for each factor, was confirmed prior to the path analysis. The four indicators did not yield an acceptable model fit for latent IWS at first: $\chi 2 = 5.80$, $df = 2$, $p > .05$, *SRMR* = .028, *CFI* = .983, *RMSEA* = .136. However, the

model fit improved substantially after including the correlations (r = .283, p < .05) between the error terms of factor 3 (i.e. language monitoring) and factor 4 (i.e. content monitoring): $\chi 2$ = .291, df = 1, p > .05, *SRMR* = .005, *CFI* = 1, *RMSEA* = .000. As language and content monitoring can take place simultaneously and interactively when writing, we included this correlation in the model. On this basis, we placed the latent IWS factor as a mediator between independent skills and IW skill, as shown in Figure 1. The linkages between the variables were drawn based on the hypotheses and correlation analysis. Due to the insignificant correlation between listening and writing, the covariance between listening and writing was dropped from the model.

<Insert Figure 1 here>

The path model in Figure 1 showed a good fit: $\chi 2$ = 12.15, df = 14, p > .05, *SRMR* = .04, *CFI* = 1, *RMSEA* = .000. The model explained a significant amount, 54% of the variance in IW performance. The indirect effects through the mediation of IW strategies for each independent variable were further calculated. The effect was considered significant if zero was not included in the 95% confidence interval (CI); see Table 4.

<Insert Table 4 here>

Not only did both listening comprehension and independent writing contribute to IW directly (β = .135 and .186 respectively), but they also had significant indirect effects on IW (β= .120 and .187 respectively). Their indirect effects represented approximately 47% and 50.1% respectively, of their total effects: that is to say, listening and writing skills enabled the students to use more IW strategies, which further improved their performance in IW tasks. There were no significant differences between

these two mediating effects (p > .05, 95% CI [-.257, .091]), indicating that the mediation mechanisms linking these two skills (i.e. listening and writing) with IW performance were similar in strength. However, reading had neither a direct nor an indirect effect on IW, even though the two were significantly correlated.

Discussion

Although IW tasks have been widely used in language tests in recent years, their fundamental nature – how independent skills are transformed into integrated skills has yet to be thoroughly understood. We analyzed not only the individual contributions of the independent skills of listening, reading, and writing to integrated skills, but also the explanatory value of the skills mediated through strategic behaviours, by looking at various independent skills simultaneously. This is an important addition, because it offers insight into the contributions of the various language skills to IW either directly or through strategic behaviour. Another contribution of this study is its focus on the low-proficiency students. Explaining the roles of relevant factors within a population of low-proficiency undergraduate students will aid in the design of educational interventions for this group.

Effects of Independent Skills on Integrated Writing Performance

This study is among the first in this field to consider three or more independent skills and determine their relative importance to IW. In responding to Research Question 1, we found that, together, independent skills accounted for only 29.5% of the variance of IW, suggesting that IW is a skill that surpasses the simple combination of independent skills. We explored the correlations between independent skills and IW performance, and found that they had different degrees of significance.

Among these independent skills, independent writing had a stronger correlation with IW than either independent reading or independent listening did. This probably indicates that independent writing is more important than the other skills when three or more skills are involved in an IW task. Further regression showed that independent writing and listening significantly predicted IW performance, whereas reading did not make a significant contribution, although its total score was significantly correlated with IW.

Although our findings regarding the importance of independent writing and listening echoed previous studies (Author, 2016; Plakans & Gebril, 2013), the contribution of reading comprehension was insignificant. Statistically, the contribution of reading may have been explained by its shared variance with the other two skills, which is feasible considering their close connection. Watanabe (2001) pointed out that the "general language proficiency" (p. 98) shared by reading and writing could allow reading comprehension to affect IW performance. "General language proficiency" was also reported in a study investigating the L1 and L2 connection when completing an IW task (van Weijen, Rijlaarsdam, & van Den Bergh, 2018). To elucidate the close connections among independent skills, further studies could more thoroughly explore the idea of "shared proficiency".

We sought to determine why reading comprehension, compared with listening, showed less predictive power than in our previous study, which indicated that reading, rather than listening, significantly predicted IW performance (Author, 2018). This may have been due to sample differences. Our previous study was conducted with 152 randomly sampled Secondary Five students, whereas the present study used a sample of university freshmen who reported moderately low proficiency in the Chinese language. The latter group of students scored much lower for reading (percentage score

= 48.28%) than listening (percentage score = 65.69%) and writing (percentage score = 66.93%). According to the interaction effect found in our previous study (Author, 2018), strength in one skill can "compensate" for weakness in another skill. It seemed that the participants in this study relied on their strongest skills, i.e. listening comprehension and writing, such as through inferences from the listening materials and organization of their ideas in their written responses. In this sense, the present study aligned with and extended our previous findings. Targeting low-proficiency students, this study found a significant and moderate effect of listening skills on IW using an argumentative text type. It would be worth investigating whether the effect is still significant for other text types.

Mediating Role of Strategy Use in the Relationship between Independent Skills and IW Skills

Related to Research Question 2, our path analytic approach confirmed the mediation effect of integrated writing strategies in mediating the relationships between two of the independent skills (listening and writing) and IW performance, but did not support our hypothesis of the strategy's effect in mediating the relationship between reading skills and IW performance. There are several reflections with regards to these findings.

First, listening comprehension had both direct and indirect effects on performance in IW. Similar to the task design used in TOEFL iBT and HKDSE, the IW task in our study involved listening materials. The significant effect of listening comprehension on the successful the completion of IW tasks suggested the necessity to pay attention to the use of the information from listening sources in an integrated writing task (Gebril & Plakans, 2013; Plakans & Gebril, 2017). Moreover, as it is common practice for the audio recording to be played once during such a task, students'

ability to grasp the ideas in the listening materials instantaneously becomes an essential skill to teach.

Second, the direct effect of independent writing necessitates the acquisition of basic knowledge and skills in writing. Students with high levels of writing knowledge and skills benefit by connecting their own ideas retrieved from memory, with the source materials. They can then formulate a stronger written response from memory or from the source materials. This process echoes both the theory of knowledge transformation in writing (Bereiter & Scardamalia, 1987) and discourse synthesis in IW (Spivey, 1997). However, the direct effect proved insufficient to ensure a high-quality essay, some of the low-performing writers tended to write directly without reference to their source texts (Solé et al., 2013).

Third, the indirect effects of both listening and writing through strategy use proved significant, confirming our hypothesis regarding the mediation role of IW strategies. The strategy use has been found to be crucial in coordinating the multiple skills involved in facilitating the iterative process (Du & List, 2020; Martínez et al., 2015; Vandermeulen et al., 2020). Our study provides quantitative evidence of the effect of enhancing the linkage between independent skills and IW performance. Our results also suggested that independent skills are not integrated until they are strategically converged, enriching our understanding of the construct of an IW task.

Finally, reading comprehension did not have a significant indirect effect via strategy use ($\beta = .054$). This, we argue, did not mean that reading was not involved. Instead, we believe that its effect could have been merged with those of other independent skills; further studies could explore this issue.

Implications and Limitations

There are a few limitations that must be acknowledged in this study. First, the mediation model we built was a statistical model; therefore, more empirical evidence is needed to verify our findings (MacKinnon et al., 2007). Second, the participants in the current study were from a single university in Hong Kong, and most of them had limited Chinese proficiency (i.e. Level 2 or 3 in the Chinese language on the HKDSE). As a result, these findings cannot be generalized to learners of other levels, and replicate studies are required to examine whether such effects apply to other groups. Third, the research instruments in this study were developed by our team, as standardized Chinese language tests applicable to university students are rare in Hong Kong. Although we invited experts for in-depth discussion concerning the design, the reliability of some of the measures were merely acceptable. Fourth, the influence of different literacy skills is sometimes bidirectional (Fitzgerald & Shanahan, 2000; Shanahan, 2006, 2016), and a longitudinal cross-lagged study could be conducted to examine this issue.

This study provides several insights for teaching and curriculum development. First, in secondary schools, many teachers feel incapable of teaching IW skills (Author, 2020). As the intermediary role of the IW strategy was confirmed, we could help teachers provide clearer guidance to students and enhance their teaching of strategies. The validated questionnaire on IW strategies, could be used as a self-evaluation tool by students and as a reference by teachers during course design. The four factors extracted from the questionnaire, namely strategies for (1) discourse connecting and organizing, (2) ideas development, (3) language monitoring, and (4) content monitoring, could be developed into a curriculum to enable students to better manipulate their independent skills to improve their results. Second, for Chinese enrichment courses at the university, as previously mentioned, undergraduates are just starting to access a substantial amount

of literature reading. As found in this study, students with a low proficiency levels may face difficulties during reading. We therefore recommend that these courses could coach students to connect ideas within and across various texts to succeed in their tertiary education. For instance, Graham and Hebert (2010) listed three types of instructional practice that may facilitate students' writing from reading: (1) have students write about the texts they read, (2) teach students the writing skills and processes involved in creating text, and (3) increase the frequency of students' writing. The positive impact of writing on reading has been documented in some instructional studies (e.g. Coker Jr, Jennings, Farley-Ripple, & MacArthur, 2018). Last, we note that the low reading proficiency of learners may hinder their ability to integrate ideas across written texts. These learners could leverage on their strengths, such as listening and viewing skills, to access knowledge presented in multimedia formats on the Internet.

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Table 1

Results of EFA of Integrated Writing Questionnaire

Items	1	2	3	4
21. I organize ideas from the listening and reading materials cohesively and coherently.	**.674**	.146	.036	.439
07. I try to understand the content according to how the information in each paragraph is organized.	**.652**	.145	.414	.054
8. I try to understand the structure and organization of the listening/reading materials.	**.651**	.243	.268	.250

2. I try to understand the relations between the ideas in the listening and reading materials.	**.636**	.359	.145	.250
10. I can identify correlations between paragraphs in the listening/reading materials.	**.611**	.369	.167	-.088
22. I think about the structure of writing, including the introduction, body, and conclusion.	**.605**	.305	.170	.119
6. I can identify correlations between sentences in the listening/reading materials.	**.515**	.302	.188	.260
3. I try to memorize ideas from the listening materials.	.243	**.701**	.016	.254
1. When I listen to the recordings, I write down keywords.	.419	**.695**	.172	.189
11. I copy noteworthy sentences from the listening/reading materials before writing.	.327	**.647**	-.026	.268
19 I select relevant ideas from the listening and reading materials.	.160	**.623**	.299	.167
14. I copy sentences from the reading materials and revise them when writing.	.255	**.579**	.279	.097
24. I evaluate the content of the listening and reading materials, including counterarguments, views, and suggestions.	.147	**.565**	.392	.123
25. I propose new ideas that fit the context of the listening and reading materials, such as claims, stances, opinions, and preferences.	.399	**.529**	.287	.201
16. I reread my writing to check for grammatical mistakes and misspellings.	.274	.036	**.735**	.254
09. I briefly summarize the points from the listening materials in my mind.	.262	.396	**.638**	-.069
29. I paraphrase my sentences to ensure that there is no plagiarism.	.046	.357	**.547**	.475
20. I summarize detailed information across sources in my own words to incorporate into the new texts.	.458	.140	**.543**	.272
17. I check whether my own sentences are identical to those in the reading materials.	.240	.210	**.529**	.382
27. I reread my own writing and modify the content to ensure that my ideas are correctly expressed.	.185	.196	.170	**.767**
18. I revise sentences to make my writing clearer.	.296	.185	.146	**.666**
28. I check whether the points from the listening and reading materials are connected in my writing.	.045	.315	.454	**.565**
Cronbach's alpha=.937	.863	.857	.810	.726

Note: The seven deleted items were 4. I make a writing plan (such as an outline, notes, and keywords); 12. After listening to the recording, I predict the content of the reading materials; 13. I double-check that my writing fits the requirements; 5. I write down the main views and key points in the reading materials; 15. I reread my writing to ensure that the content is appropriate; 23. I identify implicit relations between the listening and reading materials; and 26. I check that examples are used to support my main views.

Table 2

Descriptive Data and Correlations between Variables

	Mean	Std. Dev.	Percentage Score	1	2	3	4	5	6	7	8	9
1 Listen Total	21.02	4.28	65.69	1								
2 Read Total	24.14	6.43	48.28	.308**	1							
3 Write Total	66.93	3.44	66.93	.134	.360**	1						
4 IW Total	24.68	3.47	61.70	.340**	.342**	.448**	1					
5 IWS Factor1	24.09	5.74	68.83	.255**	.308**	.388**	.640**	1				
6 IWS Factor2	23.33	5.21	66.67	.223*	.232*	.289**	.548**	.750**	1			
7 IWS Factor3	16.24	3.89	64.95	.254**	.227*	.262**	.592**	.677**	.681**	1		
8 IWS Factor4	9.52	2.53	63.46	.172	.089	.282**	.475**	.604**	.578**	.664**	1	
9 IWS Total	73.18	15.34	66.53	.267**	.269**	.360**	.661**	.910**	.898**	.857**	.764**	1

Note: **. Correlation is significant at the 0.01 level (2-tailed). Correlation is significant at the 0.05 level (2-tailed). Percentage score = mean/full score * 100.

Table 3

Hierarchical Regression of Integrated Writing Scores on Independent Skills

	Step 1	Step 2	Step 3
Model 1			
βlistening	.34***	.259***	.250**
βreading		.262**	.133
βwriting			.367***
R2	.116***	.178***	.295***
ΔR2		.062**	.117***
Model 2			
βlistening	.34***	.285**	.25**
βwriting		.41***	.367***
βreading			.133
R2	.116***	.281***	.295***
ΔR2		.165***	.014
Model 3			
βreading	.342***	.208*	.133
βlistening		.373***	.367***
βwriting			.250**
R2	.117***	.238***	.295***
ΔR2		.121***	.057**
Model 4			
βreading	.342***	.262**	.133
βwriting		.259**	.250**
βlistening			.367***
R2	.117***	.178***	.295***
ΔR2		.061**	.117**
Model 5			
βwriting	.448***	.373***	.367***
βreading		.208*	.133
βlistening			.250**
R2	.201***	.238***	.295***
ΔR2		.038*	.057**
Model 6			
βwriting	.448***	.410***	.367***
βlistening		.285**	.25**
βreading			.133
R2	.201***	.281***	.295***
ΔR2		.080**	.014

Note: * p < .05, ** p < .01. ***p < .001.

Table 4

Indirect Effects via Integrated Writing Strategies

	Indirect effect via IW strategies		
	β	95 % CI	Proportion mediated
Independent listening	.120*	[.010, .259]	47%
Independent reading	.071	[-.075, .218]	53.2%
Independent writing	.187**	[.064, .349]	50.1%

Note: * $p < .05$, ** $p < .01$. Proportion mediated = indirect effect / total effect

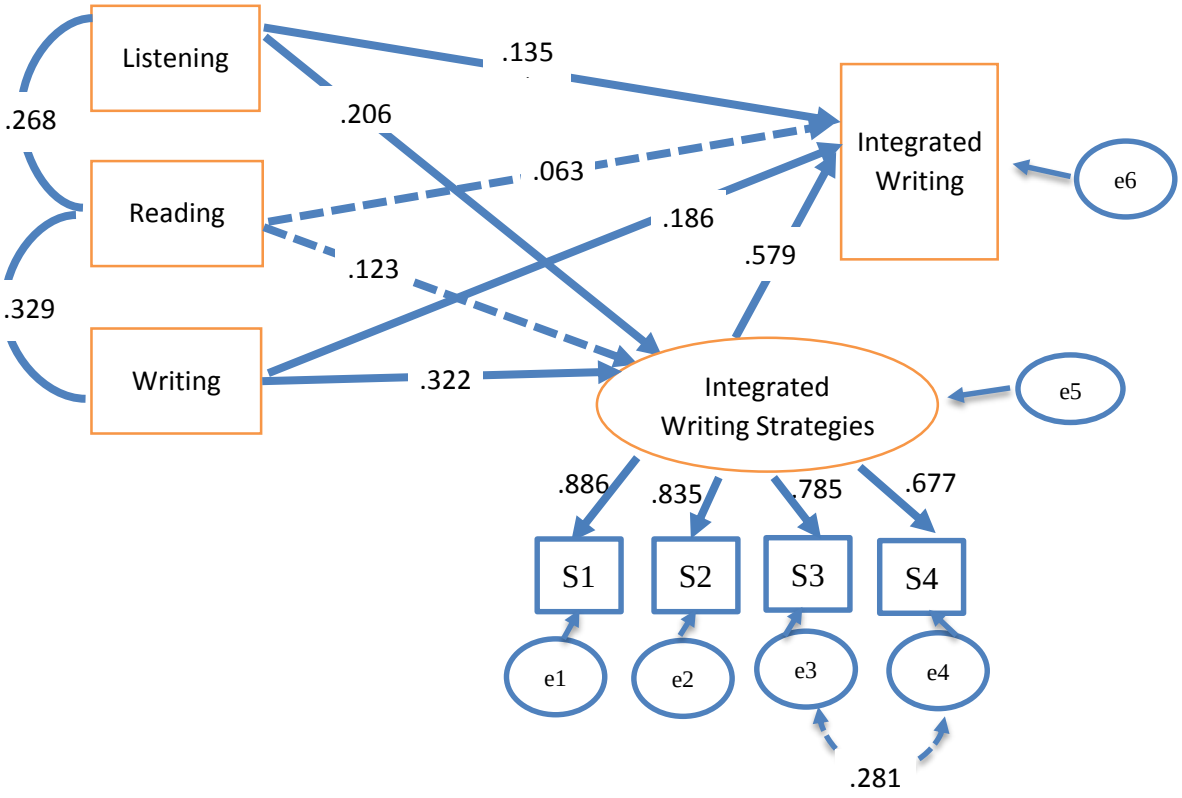

Figure 1. Mediation model demonstrating relations among independent skills, integrated writing strategies, and integrated writing skill.
Note: Digits on each path are standardized regression coefficients. Solid lines indicate significant paths between variables at the .05 level, and dashed lines indicate non-significant paths ($p > .05$). †indicates marginal significance ($p = .052$).

Appendix 1

Sample Questions Used in the Independent Reading Task

Item Type	Questions (In English)
Retrieving (R1)	1. Some people think that we need to strike a balance between "freedom" and "order". Quote the passages that have this meaning. (4 points) Answer: (1) If we are given too much freedom, law and order will be compromised; if there are too many restrictive laws, our freedom will be jeopardized; (2) Just like the idiom "you can't have your cake and eat it", you will have to strike a balance between the two.
Explaining (R2)	4. Explain the meaning of "absence of the government" in Paragraph four. (2 points) Answer: Without the government's effective supervision and enforcement of the law.
Summarizing (R3)	9. The author thinks that we cannot discover and appreciate aesthetic value anymore. Give three examples from the text. (6 points). Answer (Any 3 of the 4 below, 2 points for each example): (1) While watching Swan Lake, focused on the appearance of the four swans, or count the number of sur le cou-de-pied positions, but neglected the artistic value of the ballet and the skilfulness of the dancers (2) Parents do not pay attention to their children's interests. They want their children to learn music and drawing, only because these involvements will enhance the chance of admission to elite schools. (3) To some parents, the so-called "Olympics" is basically drilling on the same questions, which does not really cultivate children's critical thinking skills. (4) Pursue science and the arts as a way to gain fame and fortune, not because of having a passion for the subjects.
Elaborating (R4)	11. Refer to the statement "This is a time that there is no guru" is in the seventh paragraph. Elaborate on the characteristics of "guru" from the passage. (6 points) Answer (Any 3 of the 4 below, 2 points each): (1) ignore the fame and popularity that comes along with one's pursue (2) appreciate the aesthetic values (3) seeking the truth and be persistent (4) pledging integrity, living a meaningful life, and build spiritual strengths.
Evaluating (R5)	3. The author used the London Underground terrorism attack to illustrate the relationship between freedom and order. Do you think it is a good illustration? Why? (3 points)

	Answer: Students could choose to agree or disagree. The answer should focus on whether the London Underground terrorism attack can be used to support the author's point of view. It must connect to the author's viewpoint and it will be even better if the students are able to connect with the functions of the government. E.g. Agree When faced with terrorism and chaotic situation, the Londoners still maintained law and order and even helped those in need. These acts are not related to the stipulated law of the government. Disagree Terrorism is an extraordinary situation. Londoners' actions are irrelevant to the concept of freedom. It cannot be used to support the opinion that Hong Kong's law is less strict as compared to London. Therefore, the example of the terrorist attack cannot be used to illustrate that the Londoners enjoy more freedom.
Creating (R6)	7. Refer to the viewpoint presented in the passage. If you were to set rules for your school, which one will you consider? Explain and elaborate on your choice. (3 points)

Note: Question number is the order of question presented in the test paper

Appendix 2

Sample Questions Used in the Independent Listening Task

Item Type	Questions (In English)
Memorizing (L1)	2. Why did the residents in the New Territories of Hong Kong build brick walls around the villages? (2 points) A. To practice shooting B. To defend against pirates. (Answer) C. To defend against enemies at war. D. To unify the family.
Explaining (L2)	13. Dr. Cheung mentioned "an expressionless gigantic creature" when he answered the students' question. What does the "gigantic creature" refer to? What is the meaning of "expressionless"? (2 points) (1) Gigantic creature: refers to the skyscrapers in the city. (2) Expressionless: means the skyscrapers look very similar, and they lack architectural uniqueness
Summarizing (L3)	5. According to Dr. Cheung, what is the value of preserving the historical buildings along Wing Lee Street? (1 point) A. Collective memories and a sense of belonging. (Answer) B. The originality and development in history. C. The artistic approach in the construction. D. Economic and tourism development.
Elaborating (L4)	7. Dr. Cheung said, "you guys (referring to the students he was speaking to) might say, I was not even born in the 1960s!" What did he mean to say? (1 point) A. The students are not interested in anything happening in the 1960s. (Answer) B. Students are not interested in that movie. C. Students were not born in the 1960s. D. Students do not know about Wing Lee Street.
Evaluating (L5)	10. Name two types of rhetoric expressions used in Dr. Cheung's speech, and explain their effect. (4 points) Answer: Any two of the three below: (1) Rhetorical question (1), to engage the audience during the conversation (1); (2) Give illustrations (1), to enhance the effect of persuasion (1); (3) Metaphors, to create imagery.
Creating (L6)	15. If you were one of the audience, what kind of suggestions or comments would you bring up to Dr. Cheung in his speech? Why? (4 points) Answer: Target the main points of the speech and propose a different kind of suggestions and comments reasonably.

Note: Question number is the order of question presented in the test paper