

Survey on Online Teaching and 2021 HKDSE Geography Interim Report

Hong Kong Geographical Association

I. Introduction

Owing to the ongoing outbreak of COVID-19 since January 2020, face-to-face lessons have been suspended for a prolonged period, though intermittently. The adoption of online teaching has posed far-reaching effects on the daily operation of schools and the learning of students. A number of geography teachers have expressed, in different channels, their concerns with the current mode of online teaching, especially for the topics related to fieldwork. They had also called for adjustments in the upcoming 2021 HKDSE Geography examination so as to accommodate the current situations.

In light of this, the Hong Kong Geographical Association (hereinafter “HKGA”) conducted an online survey to (1) develop a better understanding of the latest situation of online teaching, as well as to (2) gather opinions from in-service teachers who are teaching geography in senior forms, over the issues related to their daily teaching, field studies teaching and the necessary adjustment of HKDSE. The survey was posted on the HKGA official webpage and was promoted and transmitted through communication channels of professional geography teachers. Major findings are hereby reported in the interim report.

II. Background of Respondents and their Respective Schools

To ensure the representativeness of the survey, the background information of respondents and their respective schools, including teaching experience, teaching responsibility and ability of students, was identified.

Table 1. Teaching experience of the respondents, in terms of their years of teaching

Teaching experience	No. of respondents (%)
Less than 1 year	0 (0%)
1-3 years	40 (10.9%)
4-6 years	45 (12.2%)
7-9 years	34 (9.2%)
10 years or above	249 (67.7%)

Table 2. Teaching responsibility of the respondents (% to total number of respondents)

	Year 2019-2020	Year 2020-2021
Secondary 4	225 (61.1%)	258 (70.1%)
Secondary 5	276 (75.0%)	276 (75.0%)
Secondary 6	248 (67.4%)	283 (76.9%)

Table 3. Teaching language of F.6 classes in respective schools

Language	No. of respondents (%)
Chinese in majority	151 (41.6%)
English in majority	190 (51%)
Both Chinese & English classes	27 (7.3%)
	N = 368

Table 4. The banding of F.6 students in respective schools

Banding	No. of respondents (%)
Band 1	111 (30.2%)
Band 1 & 2	82 (22.8%)
Band 2	44 (12 %)
Band 2 & 3	72 (19.6%)
Band 3	42 (11.4%)
Preferred not to disclosure	15 (4.1%)
	N = 366

A total of **368 responses** were collected from geography teachers of senior forms of different schools, where over 65% of the teachers have acquired teaching experience for more than 10 years. The teaching responsibility of the teachers in years 2019-2020 & 2020-2021 and the teaching language of the F.6 classes in respective schools were evenly distributed, as shown in Tables 2 and 3. Comparing the levels of F.6 students among respective schools, the proportion of students with higher banding was slightly larger than that with lower banding (see Table 4). **The sizeable respondent population of over 300 and their diversified background imply that the survey results would be accurate enough to hindsight the overall situation and general views of geography teachers.**

III. Situation of Online Teaching

To understand the conditions of online teaching comprehensively, teachers were asked to compare face-to-face and online teaching in terms of teaching schedule and teaching hours, as well as student attendance and major activities adopted in online lessons.

Table 5. Effects of online teaching on teaching schedule of senior forms in 2019-2020 (compared to 2018-19)

	Change in teaching schedule as compared to the previous situation						
	>20% <i>slower</i>	10-20% slower	<10% slower	Same	<10% faster	10-20% faster	>20% faster
No. of respondents (%)	142 (38.6%)	121 (32.9%)	61 (16.6%)	35 (9.5%)	6 (1.6%)	3 (0.8%)	0 (0.0%)

Table 6. Effects of online teaching on teaching hours in 2019-2020 (compared to 2018-19)

	Change in available teaching hours as compared to the previous situation						
	>20% fewer	10-20% fewer	<10% fewer	Same	<10% more	10-20% more	>20% more
No. of respondents (%)	162 (44.0%)	100 (27.2%)	41 (11.1%)	28 (7.6%)	11 (3.0%)	8 (2.2%)	18 (4.9%)

Table 7. Attendance of students in online lessons

	Attendance				
	>60%	61-70%	71-80%	81-90%	91-100%
No. of respondents (%)	8 (2.2%)	24 (6.5%)	63 (17.1%)	112 (30.4%)	161 (43.8%)

In comparing online teaching with face-to-face lessons, a majority (88.1%) of teachers responded they were **lagging behind on their teaching schedule** when compared to 2018-19 (see Table 5). They (82.3%) also reported that their **teaching hours decreased** after the switch of teaching mode (see Table 6). Besides, many observed that the attendance of students tended to be lower (see Table 7).

Table 8. Major activities adopted for online teaching

Activity	No. of respondents (%)
<i>Use PowerPoint as a tool</i>	162 (44.0%)
Ask individual students to respond to questions	100 (27.2%)
Perform interactive activities via online teaching platforms (e.g. Kahoot, Nearpod, Padlet, Edpuzzle)	97 (26.3%)
Play pre-recorded videos (e.g. interactive tabletop games, rock/mineral identification, field trips)	94 (25.5%)
Perform group task via discussion on online teaching platform	58 (15.7%)
Conduct field studies via virtual design	25 (6.8%)

Other activities	33 (89%)
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Over 90% of the teachers responded their use of PowerPoint to assist teaching, indicating this option as the most commonly employed method. Almost eighty percent (78.3%) of the teachers posed questions to individual students for class interaction. Approximately one fourth of them performed interactive activities through online teaching platforms (e.g. Kahoot, Nearpod, Padlet, Edpuzzle, etc.), and played pre-recorded videos, respectively.

IV. Teaching Effectiveness

Given the basic understanding of geography online teaching in schools, student performance in terms of class engagement, learning outcome and individual differences upon the switch of teaching mode from face-to-face to online were then evaluated by the teachers. Effectiveness of online teaching would also be gauged through these indicators.

Table 9. Student performance during online teaching (compared to face-to-face teaching)

	Change in performance				
	Much worse	<i>Slightly worse</i>	Same	Slightly better	Much better
Student engagement	176 (47.7%)	117 (48.0%)	10 (2.7%)	5 (1.4%)	0 (0.0%)
Students' learning outcome	172 (24.7%)	182 (49.5%)	11 (3.0%)	1 (0.3%)	2 (0.5%)

Compared to face-to-face teaching, students were generally considered less engaged during online lessons and their learning outcome was worse (see Table 9). This suggests that online teaching might be less favourable for enhancing student study performance.

Table 10. Opinion towards online teaching

	Opinion			
	Strongly disagree	Disagree	<i>Agree</i>	Strongly agree
Students with better learning ability are more attentive	38 (10.3%)	83 (22.6%)	204 (55.4%)	43 (11.7%)
Individual differences become more pronounced	4 (1.1%)	9 (2.4%)	179 (48.6%)	176 (47.8%)

Students from grass-roots families face more difficulty	4 (1.1%)	40 (10.9)	186 (50.5%)	138 (37.5%)
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Table 11. Impact of online teaching on catering for individual differences

	Level				
	Much negative impact	<i>Some negative impact</i>	No impact	Some positive impact	Some positive impact
No. of respondents (%)	152 (41.3%)	192 (52.2%)	17 (4.6%)	5 (1.4%)	2 (0.5%)

Almost all teachers (96.5%) observed more pronounced individual differences during online teaching (see Table 10). Most agreed that students with better learning ability were more attentive during online lessons. Besides, they observed that students from grass-roots families had more difficulty in online learning (see Table 10). What is more, teachers opined that online teaching made them more difficult to cater for individual differences (see Table 11).

In sum, online teaching has posed negative effects on both learning and teaching. **Student engagement and performance deteriorated while teachers were less able to cater for individual differences. Teaching effectiveness was generally hindered.**

V. Field Studies

Apart from classroom teaching, field study is another important element in the geography curriculum. The survey therefore also asked teachers to feedback in this aspect of learning, in terms of students' participation in authentic field trips during the current social movements, learning effectiveness and preparation of virtual field studies as an alternative of on-site field trips.

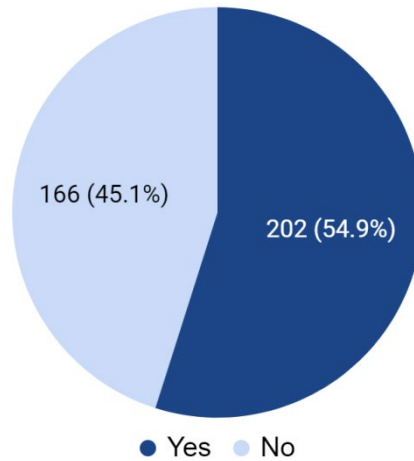


Figure 1: The proportion of F.6 students in year 2020-2021 who have participated in field trips & site observations during their F.4-5 study

Table 12: The number of field trips organised and the corresponding themes

	Number of trips				
	Zero	<i>One</i>	Two	Three	More than three
City	66	110	14	2	0
Agriculture	47	128	4	0	0
Natural hazards	108	51	4	0	0
Others	82	41	10	2	2

Reasons why F.6 Students did not Participate in Field Trips

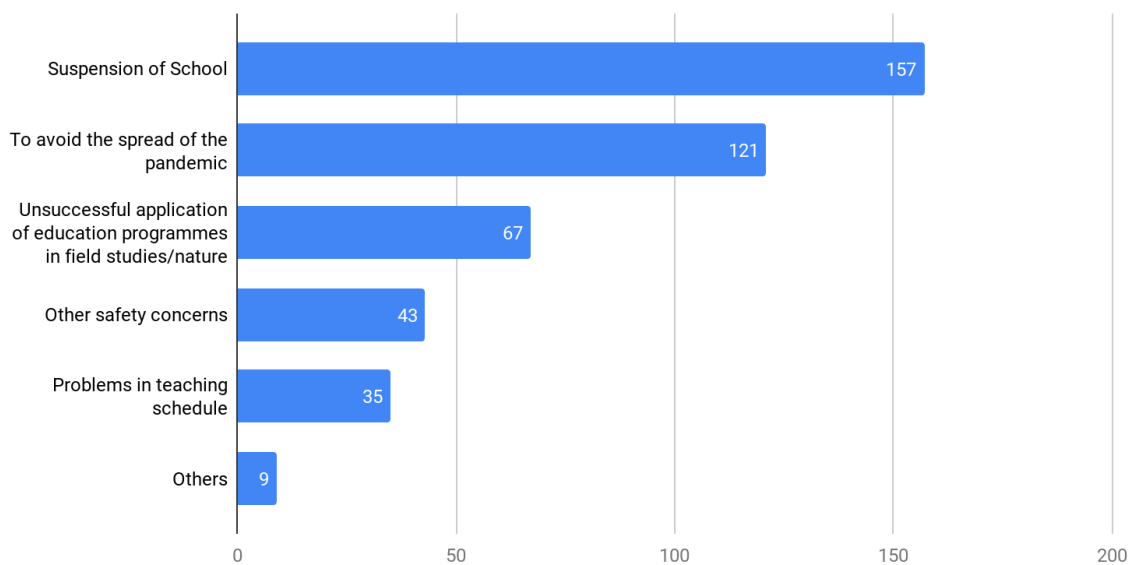


Figure 2: Reasons why F.6 Students did not Participate in Field Trips

The participation rate of students in field trips/site observation were displayed in Figure 1, where around 55% of teachers indicated that their F.6 students in year 2020-2021 of their schools have participated in at least one field trip/site observation. About 130 field trips were organised for both themes of farming (Combining famine) and city (Building a sustainable city), while only 55 field trips held were related to natural hazards (see Table 12). When asked about the reasons for non-participation of these students in any field trips, more than one-third of the responses focused on suspension of school and prevention of the spread of the pandemic as the main reasons. Other specified yet notable reasons mentioned by some teachers include the cancellation of successful applications of education programmes in field studies/nature education centres, as well as parental concerns on student safety and the disruption of transport arrangement due to social movements.

Table 13. The learning effectiveness of virtual field study in comparison to on-site field study

	Change in effectiveness					
	<i>Much worse</i>	Slightly worse	Same	Slightly better	Much better	Have not learnt about virtual field study
No. of respondents (%)	217 (59%)	49 (13.3%)	6 (1.6%)	5 (1.4%)	5 (1.4%)	86 (23.4%)

Table 14. Respondents' view on the statement that F.6 students can acquire the concepts and techniques through virtual field study and get prepared for the FBQ in DSE

	Opinion			
	Strongly disagree	<i>Disagree</i>	Agree	Strongly agree
No. of respondents (%)	154 (41.8%)	166 (45.3%)	38 (10.3%)	10 (2.7%)

Table 15. The expected learning condition of field studies for F.5 students in year 2020-2021 in comparison to their F.6 counterparts in year 2019-2020

	Change in learning condition				
	Much worse	<i>Slightly worse</i>	Same	Slightly better	Much better
No. of respondents (%)	127 (34.4%)	129 (35.1%)	76 (20.7%)	30 (8.1%)	6 (1.6%)

When asked about learning effectiveness of virtual field study, more than 70% of the teachers believed that virtual field study would not match up to the quality of learning in on-site field study, and a quarter of the teachers have not learnt about virtual field study as a teaching tool (see Table 13). As a result, around 85% of teachers disagreed that F.6 students could acquire concepts and techniques and get themselves well-prepared for the FBQ in DSE through virtual field studies (see Table 14). With regard to the learning conditions of field studies in the near future, nearly 70% of teachers responded that the learning conditions of field studies for the F.5 students in year 2020-2021 will be worse than that for their F.6 counterparts in year 2019-2020, whereas only 10% believed the condition would be improved (see Table 15).

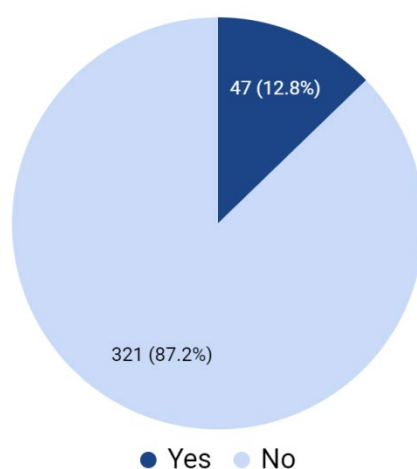


Figure 3. The proportion of respondents who applied the teaching materials they prepared for virtual field studies to their classes during the outbreak of pandemic

Table 16. The level of easiness of finding suitable teaching materials for virtual field studies

	Level of easiness			
	Very difficult	<i>Difficult</i>	Easy	Very easy
No. of respondents (%)	131 (35.6%)	206 (56%)	23 (6.2%)	8 (2.2%)

Table 17. The level of confidence in preparing the teaching materials for virtual field studies

	Level of confidence				
	<i>Very unconfident</i>	Unconfident	Average	Confident	Very confident
No. of respondents (%)	167 (45.4%)	134 (36.4%)	42 (11.4%)	17 (4.6%)	8 (2.2%)

When it comes to the preparation of teaching materials for virtual field studies, nearly 90% of the teachers did not prepare the materials and apply to their class teaching during the outbreak of pandemic (see Figure 3). They responded that finding suitable teaching materials for virtual field studies were difficult, as shown in Table 16. Moreover, above 80% were not confident in preparing the teaching materials for virtual field studies by themselves (see Table 17).

In essence, it was understood that a significant number of F.6 students in year 2020-2021 did not participate in any on-site field trips within the past two years mainly due to the suspension of school and outbreak of pandemic. Yet, a majority of teachers doubted the learning effectiveness and conditions of virtual field studies as a replacement of on-site field trips. They also did not prepare teaching materials for virtual field studies owing to the difficulties and lack of confidence in finding suitable materials. Therefore, it is foreseeable that virtual field studies can hardly replace on-site field trips despite current physical constraints.

VI. HKDSE Adjustment

In light of the survey findings about the demerits of online teaching and the difficulties of using virtual field studies to equip students with field-based skills, the inclusion of field-based questions (FBQ) in HKDSE has created grave concerns among geography teachers. Their opinions on the need for adjustment of format and content of 2021 HKDSE Geography were thus examined. Several options were proposed and evaluated by the teachers.

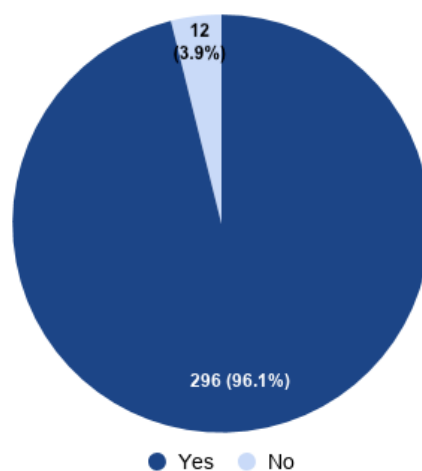


Figure 4. Opinion on the need for adjustment of format and content of 2021 HKDSE Geography

Among the 281 teachers who will teach F.6 students in 2020-21, a vast majority (96.1%) revealed that the format and content of 2021 HKDSE Geography need to be adjusted in order to cater for the actual learning and teaching contexts during school suspension and online teaching (see Figure 4).

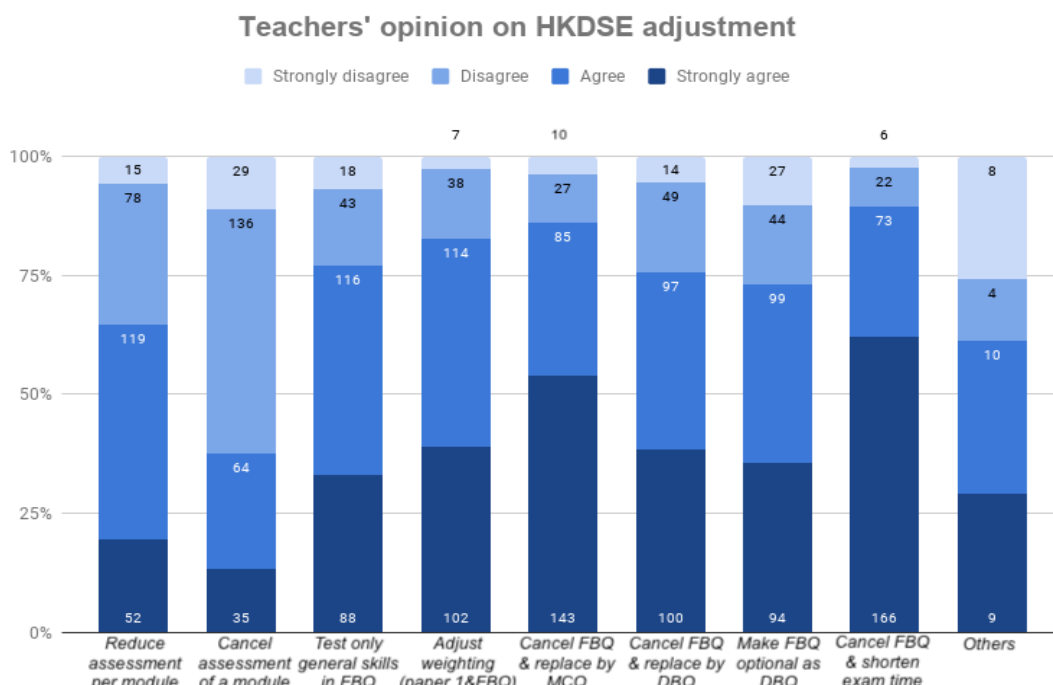


Figure 5. Opinion on the appropriateness of the suggested HKDSE adjustment options (Remarks: The total number of responses of each option varies.)

The following nine adjustment options for 2021 HKDSE Geography were proposed:

- a. Reduce the assessment content of each module (both compulsory & elective)
- b. Cancel the assessment of a certain compulsory module
- c. Test only the generic fieldwork skills and concepts in FBQ
- d. Adjust the relative weightings of Paper 1 & lower that of FBQ
- e. Cancel the compulsory FBQ & replace it with MCQ of compulsory modules
- f. Cancel the compulsory FBQ & replace it with DBQ of compulsory modules
- g. Make FBQ optional & allow choices of three questions from FBQ and DBQ
- h. Cancel FBQ & shorten the examination time of Paper 1
- i. Others

Referring to Figure 5, teachers found most of the above suggested adjustments sensible and appropriate, except the cancellation of the assessment of a specific compulsory module. They generally agreed to reduce the assessment content, change the assessment format of fieldwork skills and concept, lower the relative weighting of FBQ, or cancel the compulsory FBQ.

Whilst many teachers opted for the cancellation of the field-based questions, the other more popularly chosen options include specifying the topic of FBQ, adjusting the weighing of Paper 1 and FBQ, testing generic field study skills and concepts, or making FBQ optional.

Table 17: Percentages of teacher responses for the HKDSE adjustment options suggested

Suggested amendments	No. of respondents (%)
a Reduce the assessment content of each module (both compulsory & elective parts)	13 (4.8%)
b Cancel the assessment of a certain compulsory module	6 (2.2%)
c Test only generic fieldwork skills and concepts in FBQ	7 (2.6%)
d Adjust the relative weightings of Paper 1 & lower that of FBQ	1 (0.4%)
e Cancel the compulsory FBQ & replace with MCQ of compulsory modules	56 (20.6%)
f Cancel the compulsory FBQ & replace with DBQ of compulsory modules	16 (5.9%)
g <i>Make FBQ optional & allow choices of three questions from FBQ and DBQ</i>	57 (21.3%)
h <i>Cancel FBQ & shorten the examination time of Paper 1</i>	110 (40.4%)
i Other	5 (1.8%)

Among 271 teachers who supported an adjustment in the format and content of 2021 HKDSE Geography (see Table 17), 40.4% of them suggested cancelling the FBQ & shortening the examination time of Paper 1, followed by the option of making FBQ optional and allowing choices of three questions from FBQ and DBQ (with 21.3% of teachers agreeing to this option).

VII. Concluding Remarks

In an aim to understand more accurately the contexts and challenges of online teaching encountered by our Geography colleagues in this difficult period, HKGA conducted this opinion survey to collect responses widely from geography teachers of different schools on various aspects relating to teaching, learning and assessment (specially, for public examination). Given online teaching is uncommon and novel to both teachers and students, it is not easy for both groups to adapt and adjust to this new mode of teaching and learning within a short period of time. Adverse impacts on student performance and teaching effectiveness have been felt by teachers in most schools. What is more, geography teachers have also faced greater difficulties in teaching fieldwork skills as in-situ field studies were unavailable during the pandemic and school suspension in the year 2019-2020. Although

virtual field studies appear to be an alternative, its effectiveness is still seen as far from satisfactory. **Students sitting for 2021 Geography HKDSE may not be able to develop a full grasp of field-based skills and concepts, eventually hindering their performance in this public examination.**

Based on the survey findings, HKGA proposes that Hong Kong Examinations and Assessment Authority to consider cancelling the fieldwork-based question and shorten the examination time of entire Paper 1, or at least making field-work based question optional and relaxing the selection choices of the FBQ and DBQs in Paper 1, so as to accommodate to the discounted effectiveness in teaching and learning under the prolonged adoption of online teaching and the difficulty of conducting in-situ field studies to equip students with field-based skills for the FBQ in Geography HKDSE.

Given the uncertainty for putting the pandemic under control and for the resumption of face-to-face teaching, HKGA also strongly recommends that Education Bureau refers to the teaching and learning challenges posed by online teaching and the difficulty of teachers in developing resources for virtual field studies, as exemplified in the survey results, and accordingly, develop tailor made teaching resources on interactive online teaching for the subject and virtual field studies, to be followed by series of training workshops, so as to empower teachers with the capabilities needed in these aspects. HKGA believes that these concerted efforts suggested on teaching, learning and assessment are pivotal to ensure the learning effectiveness of Geography students and hopefully their study performance.

Date : 30 August 2020.