

A comparative study of educational on-site and online geotours in Hamamatsu-Hamanako Aspiring Geopark, Japan

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We made a practical study of on-site and online geotours in Hamamatsu-Hamanako Aspiring Geopark, central Japan, to clarify and compare educational effects of each type of tours. In August and October of 2019, we made two on-site bus tours (tours 1a and 1b), both of which were based on the same scenario focusing on the geological formation of Lake Hamanako and its deformation by the AD1498 tsunami disaster. In September and November of 2020, we made two online tours (tours 2 and 3) using the internet meeting application Zoom because of restriction under the COVID-19 pandemic. While tour 2 focused on the same scenario as tours 1a and 1b, tour 3 was based on the different scenario, which focused on the geological formation, historical floods, and relating agricultural/industrial products in the alluvial plain of the Tenryugawa River. All of the on-site and online tour participants were children and their parents, which were recruited by advertisement in elementary schools in the City of Hamamatsu. Main results of pre- and post-tour questionnaire surveys are as follows: (1) Understanding level of geological process (L1), pride level for regional geosites (L2), motivation level for further learning (L3), and total satisfaction level (L4) all show significant increases after tour 3, comparing with those before the tour. (2) L1 and L4 after tour 3 show significant increases comparing with those after tour 2. This is probably resulted from the decrease of connection troubles during tour 3 by improvement of networking instruments, (3) L1 and L4 after tour 3 are similar with those after tour 1a/1b. This may mean that educational effects of good online tours are equivalent as those of on-site tours.

Keywords: Geopark education, Online tour, Educational effect

表 1 オンラインツアー第2回事後アンケート結果と、同オンライン第1回及び対面ツアーとの比較

質問項目	全体 (n=37)	第1 回比	対面 比	児童等 (n=27)	第1 回比	対面 比	大人 (n=10)	第1 回比	対面 比
1 浜名湖(天竜川)の地形の成り立ちを説明できるようになった	3.3	**+0.6	-0.3	3.2	**+0.8	-0.2	3.5	+0.4	-0.3
2 地域に浜名湖(天竜川)があることを誇りに思うようになった	3.7	+0.2	+0.0	3.6	+0.1	-0.0	3.9	+0.5	+0.2
3 自分の住んでいる地域について自分から勉強したくなった	3.3	+0.0	-0.0	3.1	-0.0	-0.1	3.7	+0.0	+0.2
4 ツアー全体の満足度	3.7	**+0.4	-0.1	3.5	*+0.5	-0.2	3.9	**+0.5	-0.0

(表中の*は $p < 0.1$, **は $p < 0.05$ であり、前者は有意傾向、後者は有意差があることを示している。)