Exhibit 4.4: Students Look Back at Prior Webpages when Answering Integrate Items
To collect information about how well students could integrate information across websites, there were six items that specifically required students to provide information from prior websites together with information from the current website. Exhibit 4.4 provides the averages in "looking back" navigation across the six items, and then three examples from the released tasks are provided in Exhibits 4.4.1 through 4.4.3.

Exhibit 4.4 contains a considerable amount of information, so it is accompanied by a diagram. The first set of columns in Exhibit 4.4 show that on average, only 17 percent of the students looked back when answering the integrate questions and their average achievement was 558 . The "look back" students were among the better achieving ePIRLS students (referencing top-performing Singapore with average achievement of 588). Interestingly, of the 17 percent that looked back, 7 percent answered correctly on average and 10 percent did not. The achievement for these groups was 589 (similar to Singapore) for the students that answered correctly and 540 for the students who answered incorrectly despite looking back.

The second set of columns show that, on average, the 83 percent of the students that did not look back had average achievement of 535. This is lower than the students who did look back by 23 points. However, it is not low performance, so it is likely that some students either knew or could remember information across websites. Still, only 28 percent of the "did not look back" students answered these questions correctly, on average, and their average achievement was 572. It is clear, that looking back could have helped some students. In total, 55 percent of the students, on average, did not look back to prior webpages and did not answer correctly. These students had lower achievement than their counterparts (517).

In summary, the students that looked back and answered correctly, either because they were double checking or because they successfully found the answer, had the highest achievement (589) followed by the students who knew the answer without looking back (572). Next were the students who tried to look back but were not successful in answering correctly (540). Unfortunately, the majority of students did not look back when it may have helped. On average, the students who did not look back and answered incorrectly had the lowest average achievement on ePIRLS (517).

Example Item 4.4.1 is from the "Mars" task. Students needed to remember or look back to an earlier webpage to find that scientists were looking at Mars through telescopes, even in the days before space exploration. Perhaps most students thought they remembered, because hardly any of them "looked back"-only 6 percent. Ninety-four percent did not look back, but only 22 percent actually answered correctly.

On Example Item 4.4.2 from "Elizabeth Blackwell", one-third of the students "looked back" and it helped 8 percent answer correctly. This 8 percent had very high ePIRLS achievement (610). Of the

67 percent that did not look back, only 10 percent answered correctly. So once again, the majority (58\%) did not look back and did not answer correctly.

Finally, results were similar on another item about Elizabeth Blackwell's accomplishments. Twenty-seven percent "looked back" and 7 percent answered correctly compared to 20 percent who did not (average achievement 597 and 545 , respectively). Of the 73 percent who did not look back, 12 percent answered correctly (average achievement 575) and the remaining 60 percent did not (average achievement 522).

Exhibit 4.4: Students Look Back at Prior Webpages when Answering Integrate Items
Note: Results based on students who participated in both PIRLS and ePIRLS.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.


## Exhibit 4.4.1: Students Look Back at Prior Webpages when Answering Integrate Items - Example Item 1

Note: Results based on students who participated in both PIRLS and ePIRLS.

| Country | Students Who Looked Back |  |  |  |  |  | Students Who Did Not Look Back |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Percent of <br> Students | Average ePIRLS Achievement | Answered Look Back Item Correctly |  | Answered Look Back Item Incorrectly |  | Percent of <br> Students | Average ePIRIS Achievement | Answered Look Back Item Correctly |  | Answered Look Back Item Incorrectly |  |
|  |  |  | Percent of <br> Students | Average ePIRLS Achievement | Percent of Students | Average ePIRLS Achievement |  |  | Percent of Students | Average ePIRLS Achievement | Percent of <br> Students | Average ePIRLS Achievement |
| Canada | 3 (0.4) | 554 (13.8) | 1 (0.2) | 611 (13.3) | 2 (0.3) | 539 (16.1) | 97 (0.4) | 542 (3.2) | 25 (1.4) | 598 (3.5) | 71 (1.4) | 523 (3.5) |
| Chinese Taipei | 14 (1.2) | 555 (4.3) | 2 (0.4) | 605 (5.6) | 11 (1.0) | 545 (4.4) | 86 (1.2) | 540 (2.5) | 11 (0.9) | 599 (3.6) | 75 (1.4) | 531 (2.4) |
| Denmark | 9 (1.3) | 559 (9.9) | 2 (0.4) | 618 (9.1) | 7 (1.3) | 544 (9.8) | 91 (1.3) | 556 (3.0) | 22 (1.7) | 612 (3.5) | 69 (1.7) | 538 (2.8) |
| Georgia | 2 (0.3) | 462 (15.3) | 0 (0.2) | 522 (16.9) | 2 (0.3) | 449 (17.5) | 98 (0.3) | 476 (3.8) | 8 (1.2) | 559 (7.1) | 90 (1.2) | 469 (3.5) |
| Ireland | 4 (0.8) | 570 (8.5) | 1 (0.3) | 612 (9.9) | 3 (0.7) | 557 (10.7) | 96 (0.8) | 569 (3.3) | 36 (2.1) | 613 (3.5) | 60 (2.0) | 541 (3.0) |
| Israel | 2 (0.4) | 557 (19.8) | 0 (0.2) | 621 (26.6) | 1 (0.3) | 534 (23.7) | 98 (0.4) | 534 (2.8) | 15 (1.2) | 600 (4.1) | 83 (1.2) | 523 (3.0) |
| Italy | 4 (0.6) | 555 (7.9) | 0 (0.2) | 604 (19.3) | 3 (0.6) | 548 (8.1) | 96 (0.6) | 532 (2.5) | 16 (1.1) | 582 (3.6) | 80 (1.2) | 522 (2.6) |
| Norway (5) | 6 (0.8) | 587 (6.2) | 1 (0.3) | 612 (9.1) | 4 (0.7) | 579 (7.2) | $94(0.8)$ | 570 (2.7) | 28 (1.3) | 617 (3.3) | 66 (1.4) | 550 (2.8) |
| Portugal | 7 (0.6) | 525 (4.9) | 2 (0.3) | 564 (9.5) | 6 (0.6) | 513 (5.8) | 93 (0.6) | 522 (2.6) | 22 (1.3) | 571 (3.3) | 71 (1.2) | 508 (2.5) |
| Singapore | 7 (0.6) | 608 (5.6) | 2 (0.4) | 649 (6.4) | 4 (0.5) | 585 (6.0) | 93 (0.6) | 585 (3.3) | 28 (1.3) | 642 (2.8) | 65 (1.4) | 561 (3.5) |
| Slovenia | 5 (0.7) | 557 (7.7) | 2 (0.4) | 593 (9.7) | 4 (0.6) | 539 (8.2) | 95 (0.7) | 526 (2.7) | 24 (1.4) | 582 (2.9) | 71 (1.6) | 507 (2.8) |
| Sweden | 6 (1.0) | 578 (9.3) | 2 (0.5) | 629 (9.5) | 4 (0.7) | 546 (9.6) | 94 (1.0) | 560 (3.0) | 31 (1.9) | 607 (2.8) | 63 (1.8) | 536 (3.2) |
| United Arab Emirates | 6 (0.5) | 503 (7.9) | 1 (0.2) | 605 (7.1) | 5 (0.4) | 482 (8.7) | 94 (0.5) | 467 (2.5) | 11 (0.6) | 591 (3.1) | 83 (0.6) | 451 (2.7) |
| United States | 3 (0.4) | 572 (13.3) | 1 (0.2) | 647 (15.5) | 2 (0.3) | 547 (15.0) | $97(0.4)$ | 556 (2.8) | 26 (1.3) | 613 (3.0) | 72 (1.4) | 535 (3.0) |
| International Avg. | 6 (0.2) | 553 (2.8) | 1 (0.1) | 606 (3.5) | 4 (0.2) | 536 (3.2) | 94 (0.2) | 538 (0.8) | 22 (0.4) | 599 (1.0) | 73 (0.4) | 521 (0.8) |
| Benchmarking Participants |  |  |  |  |  |  |  |  |  |  |  |  |
| Abu Dhabi, UAE | 6 (0.7) | 463 (18.2) | 1 (0.2) | 588 (15.7) | 5 (0.7) | 440 (18.8) | 94 (0.7) | 428 (4.7) | 6 (0.8) | 580 (8.4) | 89 (1.0) | 419 (4.3) |
| Dubai, UAE | 9 (0.7) | 556 (6.1) | 2 (0.3) | 610 (8.1) | 7 (0.6) | 539 (7.0) | 91 (0.7) | 528 (2.0) | 20 (0.8) | 607 (2.5) | 71 (0.8) | 505 (2.7) |

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent


Exhibit 4.4.2: Students Look Back at Prior Webpages when Answering Integrate Items - Example Item 2
Note: Results based on students who participated in both PIRLS and ePIRLS.

| Country | Students Who Looked Back |  |  |  |  |  | Students Who Did Not Look Back |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Percent of Students | Average ePIRLS Achievement | Answered Look Back Item Correctly |  | Answered Look Back Item Incorrectly |  | Percent of <br> Students | Average ePIRLS Achievement | Answered Look Back Item Correctly |  | Answered Look Back Item Incorrectly |  |
|  |  |  | Percent of <br> Students | Average ePIRLS Achievement | Percent of Students | Average ePIRLS Achievement |  |  | Percent of <br> Students | Average ePIRLS Achievement | Percent of <br> Students | Average ePIRLS Achievement |
| Canada | 31 (1.9) | 572 (5.0) | 8 (1.1) | 607 (8.9) | 22 (1.4) | 559 (5.9) | 69 (1.9) | 531 (3.4) | 11 (1.1) | 601 (5.4) | 59 (1.8) | 518 (3.3) |
| Chinese Taipei | 50 (1.6) | 569 (2.4) | 7 (0.6) | 618 (5.0) | 42 (1.5) | 560 (2.8) | 50 (1.6) | 518 (3.2) | 2 (0.3) | 592 (13.1) | 49 (1.6) | 515 (3.2) |
| Denmark | 31 (1.4) | 578 (4.5) | 7 (0.8) | 612 (6.7) | 24 (1.3) | 569 (5.2) | 69 (1.4) | 551 (3.4) | 12 (1.2) | 607 (6.1) | 57 (1.6) | 539 (3.7) |
| Georgia | 18 (1.2) | 508 (5.6) | 4 (0.6) | 563 (10.3) | 14 (1.1) | 492 (6.3) | 82 (1.2) | 474 (4.4) | 13 (1.3) | 537 (5.3) | 68 (1.8) | 461 (4.4) |
| Ireland | 28 (1.9) | 600 (4.5) | 9 (1.0) | 638 (6.1) | 19 (1.4) | 584 (6.0) | 72 (1.9) | 557 (4.0) | 13 (1.1) | 615 (4.5) | 59 (1.9) | 544 (4.3) |
| Israel | 37 (1.1) | 569 (3.9) | 15 (1.0) | 609 (4.2) | 22 (1.1) | 542 (4.4) | 63 (1.1) | 515 (3.2) | 14 (1.1) | 593 (5.0) | 49 (1.2) | 492 (3.5) |
| Italy | 27 (1.5) | 554 (3.5) | 5 (0.7) | 593 (6.9) | 22 (1.2) | 545 (3.5) | 73 (1.5) | 526 (2.7) | 11 (0.9) | 569 (5.2) | 63 (1.5) | 519 (2.7) |
| Norway (5) | 26 (1.4) | 592 (4.3) | 6 (0.8) | 631 (7.8) | 20 (1.2) | 581 (4.1) | 74 (1.4) | 557 (3.4) | 9 (0.7) | 611 (4.5) | 64 (1.4) | 550 (3.6) |
| Portugal | 44 (1.2) | 539 (3.3) | 5 (0.6) | 584 (6.1) | 38 (1.3) | 533 (3.8) | 56 (1.2) | 506 (2.7) | 7 (0.8) | 560 (6.8) | 49 (1.4) | 499 (2.7) |
| Singapore | 54 (1.5) | 621 (2.6) | 30 (1.2) | 645 (2.6) | 24 (1.0) | 592 (3.3) | 46 (1.5) | 550 (4.1) | 13 (0.6) | 601 (4.4) | 33 (1.6) | 531 (4.4) |
| Slovenia | 36 (1.8) | 545 (3.3) | 3 (0.4) | 596 (9.1) | 33 (1.7) | 541 (3.5) | 64 (1.8) | 509 (2.3) | 4 (0.7) | 558 (10.5) | 60 (1.6) | 506 (2.3) |
| Sweden | 23 (1.4) | 585 (3.9) | 2 (0.5) | 625 (9.1) | 21 (1.3) | 581 (4.1) | 77 (1.4) | 551 (3.0) | 4 (0.7) | 623 (7.2) | 72 (1.6) | 547 (2.9) |
| United Arab Emirates | 22 (0.6) | 511 (4.0) | 5 (0.4) | 597 (4.4) | 17 (0.6) | 485 (4.7) | 78 (0.6) | 459 (2.7) | 12 (0.6) | 541 (3.3) | 66 (0.8) | 444 (2.6) |
| United States | 32 (1.5) | 581 (4.4) | 10 (1.1) | 617 (6.9) | 22 (1.1) | 564 (4.9) | 68 (1.5) | 542 (3.1) | 13 (0.9) | 600 (5.1) | 55 (1.7) | 529 (2.9) |
| International Avg. | 33 (0.4) | 566 (1.1) | 8 (0.2) | 610 (1.9) | 24 (0.3) | 552 (1.2) | 67 (0.4) | 525 (0.9) | 10 (0.2) | 586 (1.8) | 58 (0.4) | 514 (0.9) |

Benchmarking Participants

| Abu Dhabi, UAE | 21 (1.1) | 472 (6.9) | 4 (0.5) | 586 (8.1) | 17 (1.0) | 444 (7.3) | 79 (1.1) | 424 (4.9) | 9 (0.9) | 527 (6.9) | 70 (1.4) | 411 (4.6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dubai, UAE | 30 (0.7) | 566 (3.5) | 10 (0.8) | 609 (4.2) | 20 (0.8) | 544 (5.0) | 70 (0.7) | 514 (2.2) | 17 (1.2) | 570 (3.9) | 53 (1.0) | 496 (2.0) |

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.


Exhibit 4.4.3: Students Look Back at Prior Webpages when Answering Integrate Items - Example Item 3
Note: Results based on students who participated in both PIRLS and ePIRLS.

| Country | Students Who Looked Back |  |  |  |  |  | Students Who Did Not Look Back |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Percent of <br> Students | Average ePIRLS Achievement | Answered Look Back Item Correctly |  | Answered Look Back Item Incorrectly |  | Percent of <br> Students | Average ePIRLS Achievement | Answered Look Back Item Correctly |  | Answered Look Back Item Incorrectly |  |
|  |  |  | Percent of <br> Students | Average ePIRLS Achievement | Percent of Students | Average <br> ePIRLS <br> Achievement |  |  | Percent of <br> Students | Average ePIRLS Achievement | Percent of <br> Students | Average ePIRLS Achievement |
| Canada | 22 (1.6) | 566 (5.9) | 4 (0.5) | 605 (7.7) | 18 (1.4) | 557 (6.3) | 78 (1.6) | 537 (3.4) | 12 (1.2) | 581 (5.1) | 66 (1.9) | 529 (3.4) |
| Chinese Taipei | 57 (1.4) | 555 (2.6) | 13 (0.9) | 582 (4.4) | 44 (1.3) | 547 (3.0) | 43 (1.4) | 527 (3.4) | 5 (0.6) | 551 (5.4) | 38 (1.4) | 523 (3.6) |
| Denmark | 17 (1.4) | 567 (6.2) | 3 (0.5) | 606 (12.1) | 14 (1.3) | 558 (6.5) | 83 (1.4) | 558 (3.3) | 17 (1.3) | 593 (5.4) | 65 (1.7) | 548 (3.5) |
| Georgia | 12 (1.1) | 497 (11.8) | 2 (0.6) | 570 (16.0) | 10 (0.8) | 482 (10.7) | 88 (1.1) | 478 (3.9) | 9 (1.1) | 536 (6.2) | 78 (1.1) | 470 (4.2) |
| Ireland | 32 (1.8) | 588 (7.1) | 13 (1.3) | 623 (6.0) | 19 (1.6) | 564 (9.1) | 68 (1.8) | 560 (3.8) | 19 (1.6) | 601 (4.9) | 49 (2.0) | 545 (4.7) |
| Israel | 27 (1.6) | 561 (4.2) | 8 (0.8) | 595 (6.2) | 18 (1.2) | 545 (5.6) | 73 (1.6) | 526 (3.1) | 13 (1.1) | 591 (5.0) | 60 (1.7) | 512 (3.1) |
| Italy | 26 (1.5) | 544 (4.1) | 6 (0.7) | 575 (8.2) | 21 (1.2) | 535 (4.4) | 74 (1.5) | 529 (2.5) | 12 (0.9) | 564 (5.1) | 62 (1.6) | 523 (2.6) |
| Norway (5) | 26 (1.6) | 580 (4.7) | 8 (1.0) | 613 (6.9) | 18 (1.3) | 565 (4.7) | 74 (1.6) | 562 (3.2) | 18 (1.1) | 591 (4.1) | 56 (1.7) | 552 (3.5) |
| Portugal | 31 (1.7) | 536 (4.8) | 4 (0.6) | 574 (7.3) | 27 (1.6) | 530 (5.4) | 69 (1.7) | 514 (2.5) | 5 (0.6) | 565 (7.2) | 64 (1.8) | 510 (2.5) |
| Singapore | 39 (1.3) | 623 (3.2) | 17 (0.9) | 645 (4.6) | 23 (1.0) | 607 (3.7) | 61 (1.3) | 566 (3.6) | 20 (0.9) | 600 (3.4) | 41 (1.2) | 550 (4.2) |
| Slovenia | 28 (1.4) | 537 (3.8) | 5 (0.6) | 567 (9.3) | 22 (1.4) | 530 (4.4) | 72 (1.4) | 516 (2.5) | 6 (0.7) | 563 (6.5) | 66 (1.5) | 512 (2.5) |
| Sweden | 22 (1.6) | 579 (4.2) | 3 (0.6) | 613 (9.1) | 18 (1.6) | 573 (4.4) | 78 (1.6) | 554 (3.0) | 9 (0.8) | 594 (4.6) | 69 (1.7) | 549 (3.2) |
| United Arab Emirates | 20 (0.7) | 500 (4.7) | 4 (0.3) | 577 (5.4) | 16 (0.7) | 478 (5.4) | 80 (0.7) | 463 (2.5) | 10 (0.5) | 536 (4.6) | 70 (0.8) | 453 (2.6) |
| United States | 22 (1.2) | 577 (5.4) | 7 (0.7) | 615 (6.4) | 15 (1.0) | 561 (6.1) | 78 (1.2) | 548 (3.2) | 19 (1.1) | 586 (4.9) | 59 (1.4) | 536 (3.4) |
| International Avg. | 27 (0.4) | 558 (1.5) | 7 (0.2) | 597 (2.2) | 20 (0.3) | 545 (1.6) | 73 (0.4) | 531 (0.8) | 12 (0.3) | 575 (1.4) | 60 (0.4) | 522 (0.9) |
| Benchmarking Participants |  |  |  |  |  |  |  |  |  |  |  |  |
| Abu Dhabi, UAE | 19 (1.3) | 448 (9.1) | 3 (0.5) | 545 (14.0) | 16 (1.1) | 430 (10.1) | 81 (1.3) | 431 (4.7) | 7 (0.8) | 495 (10.0) | 74 (1.5) | 424 (4.7) |
| Dubai, UAE | 26 (1.0) | 567 (2.7) | 8 (0.6) | 604 (4.4) | 17 (0.8) | 548 (3.6) | 74 (1.0) | 517 (2.3) | 16 (0.9) | 571 (3.4) | 59 (1.1) | 502 (2.7) |

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.


