

APPENDICES

APPENDIX A

Core vocabulary in CET 4

| No. | words | No. | words | No. | words | No. | words | No. | words |
|-----|--------------|-----|---------------|-----|-------------|-----|-------------|-----|------------|
| 1 | abandon | 41 | adjust | 81 | aluminum | 121 | approve | 161 | attorney |
| 2 | ability | 42 | admire | 82 | amateur | 122 | approximate | 162 | attract |
| 3 | aboard | 43 | admission | 83 | amaze | 123 | arbitrary | 163 | attraction |
| 4 | absent | 44 | admit | 84 | ambition | 124 | architect | 164 | attractive |
| 5 | absolute | 45 | adopt | 85 | ambulance | 125 | argue | 165 | attribute |
| 6 | absorb | 46 | advance | 86 | amid | 126 | argument | 166 | audience |
| 7 | abstract | 47 | advanced | 87 | amount | 127 | arise | 167 | authority |
| 8 | abundant | 48 | advantage | 88 | amuse | 128 | arouse | 168 | automatic |
| 9 | abuse | 49 | adventure | 89 | analysis | 129 | arrange | 169 | auxiliary |
| 10 | academy | 50 | advertise | 90 | analyze | 130 | arrangement | 170 | available |
| 11 | accelerate | 51 | advertisement | 91 | ancestor | 131 | arrest | 171 | avenue |
| 12 | accent | 52 | advisable | 92 | anchor | 132 | arrival | 172 | average |
| 13 | acceptance | 53 | advise | 93 | ancient | 133 | artificial | 173 | avoid |
| 14 | access | 54 | advocate | 94 | anniversary | 134 | artistic | 174 | await |
| 15 | accidental | 55 | affect | 95 | announce | 135 | ashamed | 175 | awake |
| 16 | accommodate | 56 | affection | 96 | annoy | 136 | aside | 176 | award |
| 17 | accompany | 57 | afford | 97 | annual | 137 | aspect | 177 | aware |
| 18 | accomplish | 58 | agency | 98 | anticipate | 138 | assemble | 178 | awful |
| 19 | accord | 59 | agenda | 99 | antique | 139 | assembly | 179 | awkward |
| 20 | accordance | 60 | agent | 100 | anxiety | 140 | assess | 180 | badly |
| 21 | accordingly | 61 | aggressive | 101 | anyhow | 141 | asset | 181 | baggage |
| 22 | account | 62 | agree | 102 | anyway | 142 | assign | 182 | bake |
| 23 | accumulate | 63 | agreement | 103 | apart | 143 | assignment | 183 | balance |
| 24 | accurate | 64 | aim | 104 | apologize | 144 | assist | 184 | bankrupt |
| 25 | accuse | 65 | aircraft | 105 | apology | 145 | assistance | 185 | banner |
| 26 | accustomed | 66 | airline | 106 | apparent | 146 | associate | 186 | bare |
| 27 | achieve | 67 | alarm | 107 | appeal | 147 | association | 187 | bargain |
| 28 | achievement | 68 | alert | 108 | appear | 148 | assume | 188 | barrel |
| 29 | acknowledge | 69 | alike | 109 | appearance | 149 | assumption | 189 | barrier |
| 30 | acquaintance | 70 | alive | 110 | appetite | 150 | assure | 190 | basically |
| 31 | acquire | 71 | alliance | 111 | applause | 151 | astonish | 191 | basis |
| 32 | acquisition | 72 | allow | 112 | appliance | 152 | atmosphere | 192 | bathe |
| 33 | activity | 73 | allowance | 113 | applicable | 153 | atomic | 193 | battery |
| 34 | actual | 74 | ally | 114 | application | 154 | attach | 194 | bearing |
| 35 | acute | 75 | alongside | 115 | apply | 155 | attack | 195 | behalf |
| 36 | adapt | 76 | alphabet | 116 | appoint | 156 | attain | 196 | behave |
| 37 | addition | 77 | alter | 117 | appointment | 157 | attempt | 197 | belief |
| 38 | additional | 78 | alternative | 118 | appreciate | 158 | attend | 198 | believe |
| 39 | address | 79 | altitude | 119 | approach | 159 | attention | 199 | belong |
| 40 | adequate | 80 | altogether | 120 | appropriate | 160 | attitude | 200 | beloved |

| No. | words | No. | words | No. | words | No. | words | No. | words |
|-----|------------|-----|----------------|-----|----------------|-----|---------------|-----|---------------|
| 201 | bend | 241 | burst | 281 | circuit | 321 | commitment | 361 | conference |
| 202 | beneath | 242 | busy | 282 | circulate | 322 | common | 362 | confess |
| 203 | beneficial | 243 | calculate | 283 | circumstance | 323 | communicate | 363 | confidence |
| 204 | benefit | 244 | calm | 284 | cite | 324 | communication | 364 | confident |
| 205 | beyond | 245 | camp | 285 | civil | 325 | community | 365 | confine |
| 206 | bid | 246 | campaign | 286 | civilian | 326 | companion | 366 | confirm |
| 207 | bind | 247 | cancel | 287 | civilize | 327 | company | 367 | conflict |
| 208 | blade | 248 | candidate | 288 | claim | 328 | comparable | 368 | confront |
| 209 | blame | 249 | capable | 289 | clarify | 329 | comparative | 369 | confuse |
| 210 | blast | 250 | capacity | 290 | clash | 330 | compare | 370 | congress |
| 211 | bleed | 251 | capture | 291 | classic | 331 | compass | 371 | conjunction |
| 212 | blend | 252 | case | 292 | classical | 332 | compel | 372 | connect |
| 213 | bloody | 253 | cash | 293 | classification | 333 | compete | 373 | conquer |
| 214 | bloom | 254 | casual | 294 | classify | 334 | competent | 374 | conquest |
| 215 | boast | 255 | catalogue | 295 | clause | 335 | competition | 375 | conscience |
| 216 | boil | 256 | category | 296 | click | 336 | competitive | 376 | conscious |
| 217 | bold | 257 | cautious | 297 | client | 337 | complain | 377 | consent |
| 218 | bolt | 258 | cease | 298 | climate | 338 | complete | 378 | consequence |
| 219 | bomb | 259 | celebrate | 299 | clue | 339 | complex | 379 | consequently |
| 220 | bond | 260 | cement | 300 | clumsy | 340 | complicate | 380 | conservation |
| 221 | boom | 261 | certify | 301 | coach | 341 | component | 381 | conservative |
| 222 | boost | 262 | chain | 302 | coarse | 342 | compose | 382 | consider |
| 223 | border | 263 | challenge | 303 | code | 343 | compound | 383 | considerable |
| 224 | bore | 264 | chamber | 304 | coil | 344 | comprehension | 384 | considerate |
| 225 | boring | 265 | champion | 305 | coin | 345 | comprehensive | 385 | consideration |
| 226 | bottom | 266 | chaos | 306 | collapse | 346 | compress | 386 | consist |
| 227 | bounce | 267 | characteristic | 307 | collection | 347 | comprise | 387 | consistent |
| 228 | bound | 268 | characterize | 308 | collision | 348 | conceal | 388 | constant |
| 229 | boundary | 269 | charge | 309 | column | 349 | concede | 389 | constitute |
| 230 | bow | 270 | charity | 310 | comb | 350 | concentrate | 390 | construct |
| 231 | breed | 271 | charm | 311 | combat | 351 | concept | 391 | consult |
| 232 | breeze | 272 | chart | 312 | combination | 352 | concern | 392 | consume |
| 233 | brief | 273 | chase | 313 | combine | 353 | concerning | 393 | contact |
| 234 | broadcast | 274 | cheat | 314 | comedy | 354 | concession | 394 | contain |
| 235 | broom | 275 | check | 315 | comfort | 355 | conclude | 395 | contemporary |
| 236 | budget | 276 | chew | 316 | command | 356 | concrete | 396 | content |
| 237 | bulk | 277 | chief | 317 | comment | 357 | condemn | 397 | contest |
| 238 | bump | 278 | chill | 318 | commerce | 358 | condense | 398 | context |
| 239 | bundle | 279 | choke | 319 | commission | 359 | condition | 399 | continual |
| 240 | burden | 280 | chop | 320 | commit | 360 | conduct | 400 | continue |

| No. | words | No. | words | No. | words | No. | words | No. | words |
|-----|----------------|-----|-------------|-----|---------------|-----|-------------|-----|---------------|
| 401 | contract | 441 | cultivate | 481 | depart | 521 | display | 561 | elbow |
| 402 | contradiction | 442 | curiosity | 482 | dependent | 522 | disposal | 562 | elect |
| 403 | contrary | 443 | current | 483 | deposit | 523 | dispose | 563 | electrical |
| 404 | contrast | 444 | curse | 484 | depress | 524 | dispute | 564 | elegant |
| 405 | contribute | 445 | curve | 485 | depression | 525 | dissolve | 565 | elementary |
| 406 | contribution | 446 | cushion | 486 | deputy | 526 | distinct | 566 | eliminate |
| 407 | control | 447 | cycle | 487 | derive | 527 | distinguish | 567 | embarrass |
| 408 | controversy | 448 | damn | 488 | descend | 528 | distress | 568 | embrace |
| 409 | convenience | 449 | dare | 489 | describe | 529 | distribute | 569 | emerge |
| 410 | convenient | 450 | data | 490 | deserve | 530 | disturb | 570 | emergency |
| 411 | convention | 451 | date | 491 | desirable | 531 | diverse | 571 | emit |
| 412 | conversely | 452 | dawn | 492 | despair | 532 | divide | 572 | emotion |
| 413 | convert | 453 | deadline | 493 | desperate | 533 | division | 573 | emphasis |
| 414 | convey | 454 | deal | 494 | despite | 534 | divorce | 574 | employ |
| 415 | conviction | 455 | debate | 495 | destruction | 535 | document | 575 | enable |
| 416 | convince | 456 | debt | 496 | detail | 536 | domestic | 576 | enclose |
| 417 | cooperate | 457 | decay | 497 | detect | 537 | dominant | 577 | encounter |
| 418 | coordinate | 458 | deceive | 498 | determination | 538 | dominate | 578 | encourage |
| 419 | cope | 459 | decent | 499 | determine | 539 | donation | 579 | endure |
| 420 | corporation | 460 | declaration | 500 | development | 540 | doubtful | 580 | enforce |
| 421 | correspond | 461 | decline | 501 | devise | 541 | draft | 581 | engage |
| 422 | correspondence | 462 | decorate | 502 | devote | 542 | drain | 582 | enhance |
| 423 | costly | 463 | decrease | 503 | dictate | 543 | dramatic | 583 | enjoy |
| 424 | council | 464 | defeat | 504 | differ | 544 | drift | 584 | enormous |
| 425 | counsel | 465 | defect | 505 | digest | 545 | drip | 585 | ensure |
| 426 | count | 466 | defend | 506 | dimension | 546 | dumb | 586 | entertain |
| 427 | couple | 467 | define | 507 | diplomatic | 547 | dump | 587 | entireness |
| 428 | course | 468 | definite | 508 | directly | 548 | durable | 588 | entitle |
| 429 | crack | 469 | definitely | 509 | dirt | 549 | duration | 589 | entry |
| 430 | craft | 470 | delegate | 510 | disappoint | 550 | dynamic | 590 | environment |
| 431 | crazy | 471 | delete | 511 | discharge | 551 | ease | 591 | envy |
| 432 | create | 472 | deliberate | 512 | discipline | 552 | economic | 592 | episode |
| 433 | credit | 473 | delicate | 513 | discount | 553 | economical | 593 | equation |
| 434 | critical | 474 | delight | 514 | discourage | 554 | edit | 594 | equip |
| 435 | crucial | 475 | deliver | 515 | discover | 555 | effect | 595 | equivalent |
| 436 | crude | 476 | delivery | 516 | discuss | 556 | effective | 596 | erect |
| 437 | cruise | 477 | demand | 517 | disguise | 557 | efficiency | 597 | essential |
| 438 | crush | 478 | democracy | 518 | disgust | 558 | efficient | 598 | establishment |
| 439 | crystal | 479 | demonstrate | 519 | dismiss | 559 | elaborate | 599 | estimate |
| 440 | cue | 480 | deny | 520 | disorder | 560 | elastic | 600 | evaluate |

| No. | words | No. | words | No. | words | No. | words | No. | words |
|-----|---------------|-----|-------------|-----|-------------|-----|------------|-----|---------------|
| 601 | eventually | 641 | factor | 681 | fold | 721 | gesture | 761 | hedge |
| 602 | evidence | 642 | faculty | 682 | fond | 722 | glance | 762 | heel |
| 603 | evident | 643 | fade | 683 | forbid | 723 | glimpse | 763 | hesitate |
| 604 | evolution | 644 | fail | 684 | forecast | 724 | glow | 764 | highlight |
| 605 | evolve | 645 | failure | 685 | fortnight | 725 | govern | 765 | horizontal |
| 606 | exaggerate | 646 | faint | 686 | fortunate | 726 | grab | 766 | hostile |
| 607 | examine | 647 | faith | 687 | found | 727 | grace | 767 | hunt |
| 608 | exceed | 648 | faithful | 688 | fraction | 728 | gradual | 768 | ideal |
| 609 | exceedingly | 649 | famine | 689 | freight | 729 | graduate | 769 | identical |
| 610 | Exchange | 650 | fancy | 690 | freight | 730 | grant | 770 | identify |
| 611 | exclaim | 651 | fantastic | 691 | frequency | 731 | grasp | 771 | identity |
| 612 | exclude | 652 | fascinating | 692 | frequency | 732 | grateful | 772 | idle |
| 613 | exclusive | 653 | fashion | 693 | frequent | 733 | gratitude | 773 | ignore |
| 614 | excursion | 654 | fasten | 694 | frequent | 734 | gravity | 774 | illegal |
| 615 | execute | 655 | fatal | 695 | frown | 735 | greedy | 775 | illustrate |
| 616 | executive | 656 | fatigue | 696 | fruitful | 736 | greenhouse | 776 | image |
| 617 | exert | 657 | fatigue | 697 | frustrate | 737 | grind | 777 | imagination |
| 618 | exhaust | 658 | faulty | 698 | fuel | 738 | grip | 778 | imagine |
| 619 | exhibit | 659 | favor | 699 | fulfill | 739 | gross | 779 | imitate |
| 620 | existence | 660 | favorable | 700 | function | 740 | guarantee | 780 | immense |
| 621 | exit | 661 | favorite | 701 | fund | 741 | guidance | 781 | impact |
| 622 | expand | 662 | feasible | 702 | fundamental | 742 | guide | 782 | implement |
| 623 | expectation | 663 | feature | 703 | furnish | 743 | guilty | 783 | implication |
| 624 | expense | 664 | feedback | 704 | Fuss | 744 | halt | 784 | imply |
| 625 | expert | 665 | fertile | 705 | forge | 745 | handle | 785 | import |
| 626 | explode | 666 | fiction | 706 | forgive | 746 | handy | 786 | impose |
| 627 | exploit | 667 | fierce | 707 | format | 747 | harbor | 787 | impress |
| 628 | explore | 668 | figure | 708 | formula | 748 | harden | 788 | improve |
| 629 | explosion | 669 | file | 709 | gain | 749 | harm | 789 | incident |
| 630 | export | 670 | filter | 710 | gap | 750 | harmony | 790 | incline |
| 631 | expose | 671 | finance | 711 | garbage | 751 | harness | 791 | include |
| 632 | exposure | 672 | flame | 712 | gay | 752 | harsh | 792 | increase |
| 633 | extend | 673 | flash | 713 | gaze | 753 | haste | 793 | incredible |
| 634 | extent | 674 | flee | 714 | gear | 754 | hatred | 794 | index |
| 635 | exterior | 675 | flexible | 715 | gene | 755 | hazard | 795 | indicate |
| 636 | external | 676 | flock | 716 | generate | 756 | heading | 796 | indifferent |
| 637 | extraordinary | 677 | flourish | 717 | generous | 757 | headline | 797 | indirect |
| 638 | extreme | 678 | fluent | 718 | genuine | 758 | heal | 798 | indispensable |
| 639 | fabric | 679 | fluid | 719 | geometry | 759 | heap | 799 | individual |
| 640 | facility | 680 | focus | 720 | germ | 760 | heave | 800 | indoor |

| No. | words | No. | words | No. | words | No. | words | No. | words |
|-----|--------------|-----|--------------|-----|-------------|-----|-------------|------|--------------|
| 801 | inevitable | 841 | interior | 881 | legislation | 921 | massive | 961 | mode |
| 802 | infect | 842 | intermediate | 882 | leisure | 922 | master | 962 | moderate |
| 803 | infer | 843 | internal | 883 | lest | 923 | mate | 963 | modest |
| 804 | inferior | 844 | internet | 884 | liable | 924 | mature | 964 | modify |
| 805 | infinite | 845 | interpret | 885 | liberal | 925 | maximum | 965 | moist |
| 806 | inflation | 846 | interrupt | 886 | liberate | 926 | mayor | 966 | molecule |
| 807 | influence | 847 | interval | 887 | license | 927 | means | 967 | monitor |
| 808 | influential | 848 | interview | 888 | likely | 928 | meantime | 968 | monthly |
| 809 | inform | 849 | intimate | 889 | likewise | 929 | measurement | 969 | mosquito |
| 810 | ingredient | 850 | introduction | 890 | limitation | 930 | mechanic | 970 | mostly |
| 811 | inhabitant | 851 | invade | 891 | limited | 931 | mechanism | 971 | motion |
| 812 | inherit | 852 | invasion | 892 | literary | 932 | media | 972 | motivate |
| 813 | initial | 853 | invest | 893 | loan | 933 | medium | 973 | motive |
| 814 | initiative | 854 | investigate | 894 | lobby | 934 | melt | 974 | mount |
| 815 | injure | 855 | invisible | 895 | local | 935 | members | 975 | mud |
| 816 | innocent | 856 | invitation | 896 | locate | 936 | memorial | 976 | mug |
| 817 | input | 857 | involve | 897 | location | 937 | mend | 977 | multiple |
| 818 | insert | 858 | isolate | 898 | lodge | 938 | mental | 978 | multiply |
| 819 | insight | 859 | issue | 899 | logic | 939 | mention | 979 | mushroom |
| 820 | insist | 860 | jealous | 900 | loop | 940 | mercy | 980 | mutual |
| 821 | inspect | 861 | joint | 901 | loose | 941 | mere | 981 | myth |
| 822 | install | 862 | journal | 902 | lorry | 942 | merely | 982 | naked |
| 823 | instance | 863 | jungle | 903 | lousing | 943 | merit | 983 | namely |
| 824 | instant | 864 | junior | 904 | lower | 944 | merry | 984 | narrow |
| 825 | instead | 865 | justice | 905 | loyal | 945 | mess | 985 | nationality |
| 826 | Instinct | 866 | justify | 906 | luggage | 946 | might | 986 | native |
| 827 | institute | 867 | keen | 907 | lump | 947 | mild | 987 | naturally |
| 828 | instruction | 868 | kindness | 908 | luxury | 948 | mingle | 988 | naval |
| 829 | insult | 869 | label | 909 | machinery | 949 | ministry | 989 | navigation |
| 830 | insure | 870 | lag | 910 | magnet | 950 | minor | 990 | navy |
| 831 | integrate | 871 | landscape | 911 | magnificent | 951 | minority | 991 | necessary |
| 832 | intellect | 872 | largely | 912 | maintain | 952 | minus | 992 | necessity |
| 833 | intelligence | 873 | launch | 913 | maintenance | 953 | miracle | 993 | negotiate |
| 834 | intend | 874 | laundry | 914 | management | 954 | mirror | 994 | neighborhood |
| 835 | intense | 875 | lavatory | 915 | manual | 955 | miserable | 995 | nest |
| 836 | intensity | 876 | layout | 916 | manufacture | 956 | mislead | 996 | network |
| 837 | intention | 877 | leading | 917 | margin | 957 | mission | 997 | neutral |
| 838 | interaction | 878 | leak | 918 | marine | 958 | mist | 998 | nevertheless |
| 839 | interest | 879 | leap | 919 | marvelous | 959 | mixture | 999 | nightmare |
| 840 | interfere | 880 | lease | 920 | mass | 960 | mobile | 1000 | nitrogen |

| No. | words | No. | words | No. | words | No. | words | No. | words |
|------|---------------|------|----------------|------|----------------|------|--------------|------|---------------|
| 1201 | pursue | 1241 | reception | 1281 | remind | 1321 | restrict | 1361 | scare |
| 1202 | push | 1242 | recession | 1282 | remote | 1322 | resume | 1362 | scatter |
| 1203 | puzzle | 1243 | reckon | 1283 | removal | 1323 | retail | 1363 | scenery |
| 1204 | qualification | 1244 | recognition | 1284 | render | 1324 | retain | 1364 | schedule |
| 1205 | qualify | 1245 | recommend | 1285 | renew | 1325 | retire | 1365 | scheme |
| 1206 | quality | 1246 | recommendation | 1286 | rent | 1326 | retreat | 1366 | scholarship |
| 1207 | quantity | 1247 | recovery | 1287 | repeatedly | 1327 | reveal | 1367 | scope |
| 1208 | queue | 1248 | recreation | 1288 | repetition | 1328 | revenue | 1368 | scout |
| 1209 | quit | 1249 | recruit | 1289 | replace | 1329 | revenue | 1369 | scrape |
| 1210 | quotation | 1250 | reduction | 1290 | represent | 1330 | review | 1370 | scratch |
| 1211 | quote | 1251 | refer | 1291 | representative | 1331 | revise | 1371 | screw |
| 1212 | racial | 1252 | reference | 1292 | reproduce | 1332 | revolt | 1372 | script |
| 1213 | rack | 1253 | refine | 1293 | reputation | 1333 | reward | 1373 | seal |
| 1214 | radiation | 1254 | reflect | 1294 | request | 1334 | reward | 1374 | second |
| 1215 | radical | 1255 | reform | 1295 | require | 1335 | rid | 1375 | section |
| 1216 | rage | 1256 | refresh | 1296 | require | 1336 | ridiculous | 1376 | sector |
| 1217 | raid | 1257 | refugee | 1297 | rescue | 1337 | rigid | 1377 | secure |
| 1218 | rainy | 1258 | refusal | 1298 | resemble | 1338 | rival | 1378 | security |
| 1219 | rally | 1259 | regarding | 1299 | reservation | 1339 | roar | 1379 | seek |
| 1220 | ramble | 1260 | regardless | 1300 | reservoir | 1340 | rob | 1380 | segment |
| 1221 | range | 1261 | register | 1301 | residence | 1341 | roller | 1381 | selection |
| 1222 | rank | 1262 | regulate | 1302 | resident | 1342 | romantic | 1382 | semester |
| 1223 | rare | 1263 | reinforce | 1303 | resign | 1343 | rotate | 1383 | semiconductor |
| 1224 | rate | 1264 | reject | 1304 | resist | 1344 | rotten | 1384 | seminar |
| 1225 | ratio | 1265 | rejection | 1305 | resistant | 1345 | rouse | 1385 | senior |
| 1226 | rational | 1266 | relate | 1306 | resolution | 1346 | routine | 1386 | sensible |
| 1227 | raw | 1267 | relativity | 1307 | resolve | 1347 | rumor | 1387 | sensitive |
| 1228 | react | 1268 | relax | 1308 | resort | 1348 | rural | 1388 | sequence |
| 1229 | reaction | 1269 | release | 1309 | resource | 1349 | rust | 1389 | session |
| 1230 | readily | 1270 | relevant | 1310 | respect | 1350 | sack | 1390 | setting |
| 1231 | realistic | 1271 | reliable | 1311 | respectively | 1351 | sack | 1391 | sexual |
| 1232 | reality | 1272 | relief | 1312 | respire | 1352 | sacrifice | 1392 | shallow |
| 1233 | realm | 1273 | relieve | 1313 | respond | 1353 | safety | 1393 | shave |
| 1234 | rear | 1274 | religious | 1314 | response | 1354 | sake | 1394 | shed |
| 1235 | reasonable | 1275 | reluctant | 1315 | responsibility | 1355 | salesman | 1395 | sheer |
| 1236 | rebel | 1276 | rely | 1316 | responsible | 1356 | sample | 1396 | shelter |
| 1237 | recall | 1277 | remain | 1317 | restless | 1357 | sanction | 1397 | shield |
| 1238 | receipt | 1278 | remark | 1318 | restore | 1358 | satisfactory | 1398 | shift |
| 1239 | receiver | 1279 | remarkable | 1319 | restrain | 1359 | scandal | 1399 | shiver |

| No. | words | No. | words | No. | words | No. | words | No. | words |
|------|---------------|------|-------------|------|-------------|------|--------------|------|-------------|
| 1401 | shortly | 1441 | sorrow | 1481 | stimulate | 1521 | superficial | 1561 | technique |
| 1402 | shrink | 1442 | sour | 1482 | sting | 1522 | superior | 1562 | tedious |
| 1403 | shrug | 1443 | source | 1483 | stir | 1523 | supplement | 1563 | temper |
| 1404 | sideways | 1444 | sow | 1484 | stock | 1524 | supply | 1564 | temporary |
| 1405 | signal | 1445 | spacecraft | 1485 | stoop | 1525 | support | 1565 | temptation |
| 1406 | significant | 1446 | span | 1486 | storage | 1526 | suppose | 1566 | tend |
| 1407 | similar | 1447 | spark | 1487 | strain | 1527 | supreme | 1567 | tendency |
| 1408 | simplicity | 1448 | specialist | 1488 | strap | 1528 | surgery | 1568 | tender |
| 1409 | simplify | 1449 | species | 1489 | string | 1529 | surplus | 1569 | tense |
| 1410 | sincerely | 1450 | specific | 1490 | strip | 1530 | surrender | 1570 | terminal |
| 1411 | singular | 1451 | specify | 1491 | stripe | 1531 | surround | 1571 | terror |
| 1412 | site | 1452 | specimen | 1492 | stroke | 1532 | surroundings | 1572 | textile |
| 1413 | situation | 1453 | spectacular | 1493 | structure | 1533 | survey | 1573 | theme |
| 1414 | sketch | 1454 | sphere | 1494 | studio | 1534 | survival | 1574 | theoretical |
| 1415 | skillful | 1455 | spill | 1495 | stuff | 1535 | survive | 1575 | therapy |
| 1416 | skim | 1456 | spin | 1496 | style | 1536 | suspect | 1576 | thereby |
| 1417 | slam | 1457 | spiritual | 1497 | subject | 1537 | suspend | 1577 | thirst |
| 1418 | slap | 1458 | split | 1498 | submerge | 1538 | suspicion | 1578 | thorough |
| 1419 | slender | 1459 | spoil | 1499 | submit | 1539 | sustain | 1579 | thoughtful |
| 1420 | slice | 1460 | sponsor | 1500 | substance | 1540 | swallow | 1580 | threaten |
| 1421 | slide | 1461 | spray | 1501 | substantial | 1541 | sway | 1581 | thrive |
| 1422 | slight | 1462 | spur | 1502 | substitute | 1542 | swear | 1582 | thrust |
| 1423 | slip | 1463 | squeeze | 1503 | subtract | 1543 | sweater | 1583 | thump |
| 1424 | slippery | 1464 | stable | 1504 | suburb | 1544 | sweep | 1584 | thunder |
| 1425 | slope | 1465 | staff | 1505 | succeed | 1545 | swell | 1585 | tide |
| 1426 | smash | 1466 | stain | 1506 | succession | 1546 | swift | 1586 | tidy |
| 1427 | snap | 1467 | stake | 1507 | successive | 1547 | swing | 1587 | timber |
| 1428 | soak | 1468 | stale | 1508 | suck | 1548 | switch | 1588 | tissue |
| 1429 | soar | 1469 | standpoint | 1509 | sufficient | 1549 | symbol | 1589 | title |
| 1430 | social | 1470 | starve | 1510 | suggestion | 1550 | sympathetic | 1590 | toast |
| 1431 | software | 1471 | static | 1511 | suicide | 1551 | sympathize | 1591 | tolerate |
| 1432 | solar | 1472 | statistic | 1512 | suit | 1552 | sympathy | 1592 | tone |
| 1433 | sole | 1473 | statue | 1513 | suitable | 1553 | symptom | 1593 | topic |
| 1434 | solemn | 1474 | status | 1514 | summarize | 1554 | synthetic | 1594 | torch |
| 1435 | solution | 1475 | steak | 1515 | summit | 1555 | systematic | 1595 | torture |
| 1436 | solve | 1476 | steep | 1516 | sunlight | 1556 | tackle | 1596 | total |
| 1437 | somehow | 1477 | steer | 1517 | sunrise | 1557 | tag | 1597 | tough |
| 1438 | somewhat | 1478 | stem | 1518 | sunset | 1558 | talent | 1598 | trace |
| 1439 | sophisticated | 1479 | sticky | 1519 | sunshine | 1559 | target | 1599 | trade |
| 1440 | sore | 1480 | stiff | 1520 | superb | 1560 | tax | 1600 | tragedy |

| No. | words | No. | words | No. | words | No. | words | No. | words |
|------|---------------|------|---------------|------|------------|------|------------|-----|-------|
| 1601 | trail | 1641 | uneasy | 1681 | version | 1721 | wicked | | |
| 1602 | transfer | 1642 | unfortunately | 1682 | vertical | 1722 | widen | | |
| 1603 | transform | 1643 | unique | 1683 | veteran | 1723 | widespread | | |
| 1604 | translation | 1644 | unity | 1684 | via | 1724 | willing | | |
| 1605 | transmission | 1645 | universal | 1685 | vibrate | 1725 | wipe | | |
| 1606 | transmit | 1646 | universe | 1686 | vice | 1726 | withdraw | | |
| 1607 | transparent | 1647 | unless | 1687 | victim | 1727 | withstand | | |
| 1608 | transport | 1648 | unlike | 1688 | view | 1728 | witness | | |
| 1609 | trash | 1649 | unload | 1689 | viewpoint | 1729 | worldwide | | |
| 1610 | tread | 1650 | unusual | 1690 | vigorous | 1730 | worm | | |
| 1611 | treatment | 1651 | upper | 1691 | violate | 1731 | worship | | |
| 1612 | treaty | 1652 | upright | 1692 | violence | 1732 | worth | | |
| 1613 | tremble | 1653 | upset | 1693 | virtual | 1733 | worthwhile | | |
| 1614 | tremendous | 1654 | up-to-date | 1694 | virtue | 1734 | worthy | | |
| 1615 | trend | 1655 | upward | 1695 | virus | 1735 | wound | | |
| 1616 | triangle | 1656 | urban | 1696 | visible | 1736 | wrap | | |
| 1617 | trim | 1657 | urgent | 1697 | visual | 1737 | wrap | | |
| 1618 | triumph | 1658 | usage | 1698 | vitamin | 1738 | wreck | | |
| 1619 | troop | 1659 | usage | 1699 | vivid | 1739 | yawn | | |
| 1620 | tropical | 1660 | utility | 1700 | voltage | 1740 | yield | | |
| 1621 | troublesome | 1661 | utilize | 1701 | volume | 1741 | | | |
| 1622 | truly | 1662 | utmost | 1702 | voluntary | 1742 | | | |
| 1623 | tune | 1663 | utter | 1703 | volunteer | 1743 | | | |
| 1624 | tuner | 1664 | vacant | 1704 | vote | 1744 | | | |
| 1625 | tunnel | 1665 | vacation | 1705 | voyage | 1745 | | | |
| 1626 | turbine | 1666 | vacuum | 1706 | wage | 1746 | | | |
| 1627 | turtle | 1667 | vague | 1707 | wake | 1747 | | | |
| 1628 | tutor | 1668 | vain | 1708 | waken | 1748 | | | |
| 1629 | twin | 1669 | valid | 1709 | wander | 1749 | | | |
| 1630 | twist | 1670 | valuable | 1710 | warn | 1750 | | | |
| 1631 | typical | 1671 | value | 1711 | waterproof | 1751 | | | |
| 1632 | ultimate | 1672 | vanish | 1712 | weave | 1752 | | | |
| 1633 | uncover | 1673 | variable | 1713 | weed | 1753 | | | |
| 1634 | undergo | 1674 | variation | 1714 | weep | 1754 | | | |
| 1635 | undergraduate | 1675 | variety | 1715 | weld | 1755 | | | |
| 1636 | underground | 1676 | vary | 1716 | welfare | 1756 | | | |
| 1637 | underline | 1677 | vast | 1717 | whatsoever | 1757 | | | |
| 1638 | underneath | 1678 | vehicle | 1718 | whereas | 1758 | | | |
| 1639 | undo | 1679 | venture | 1719 | whistle | 1759 | | | |
| 1640 | undoubtedly | 1680 | verify | 1720 | wholly | 1760 | | | |

APPENDIX B

Detailed Samples of screenshots from DIALANG tests

1. Screenshot of the Vocabulary Size Placement Test

Placement Test

● = Yes ◆ = No

| | | |
|-----------------|--------------------|---------------------|
| ● ◆ to campaign | ● ◆ to decide | ● ◆ to review |
| ● ◆ to fuff | ● ◆ to megalize | ● ◆ to celebrate |
| ● ◆ to bourble | ● ◆ to markle | ● ◆ to demolish |
| ● ◆ to fear | ● ◆ to abolish | ● ◆ to administer |
| ● ◆ to preyout | ● ◆ to root | ● ◆ to erode |
| ● ◆ to study | ● ◆ to distinguish | ● ◆ to fabulation |
| ● ◆ to savedown | ● ◆ to outlate | ● ◆ to join |
| ● ◆ to compile | ● ◆ to sink | ● ◆ to settle |
| ● ◆ to motivate | ● ◆ to encompass | ● ◆ to driggle |
| ● ◆ to witness | ● ◆ to chariover | ● ◆ to mention |
| ● ◆ to emerge | ● ◆ to strang | ● ◆ to struggle |
| ● ◆ to sprinkle | ● ◆ to permit | ● ◆ to yell |
| ● ◆ to oldenate | ● ◆ to promise | ● ◆ to complicate |
| ● ◆ to skey | ● ◆ to violate | ● ◆ to squeeze |
| ● ◆ to unleash | ● ◆ to digame | ● ◆ to congratulate |
| ● ◆ to honch | ● ◆ to numbelate | ● ◆ to keepsick |
| ● ◆ to name | ● ◆ to colour | ● ◆ to hesitate |
| ● ◆ to organize | ● ◆ to wordle | ● ◆ to complement |
| ● ◆ to mayto | ● ◆ to box | ● ◆ to repair |
| ● ◆ to type | ● ◆ to authorise | ● ◆ to reform |

2. Screenshot from the Listening test

1

i Listen to the recording, and choose one of the options below, then click on the button using the mouse. You can only play the sound ONCE.

Listen to the dialogue between a customer and a counter assistant in a post office.

When will the letter arrive in Australia?

☐ In less than a week.
☐ In over a week.
☐ In two weeks.
☐ It changes from week to week.

3. Screenshot from Writing test

1

i Read the text, and choose one of the options below, then click on the button using the mouse.

Dear Dan,

The sports centre is open (a) at 12 o'clock (b) on Saturdays so I'll meet you (c) on the bus stop (d) at 11 o'clock. See you then.

Rolf

Read the text and decide where (a, b, c or d) there is a grammatical mistake.

- ☐ (a) at 12 o'clock
- ☐ (b) on Saturdays
- ☐ (c) on the bus stop
- ☐ (d) at 11 o'clock

4. Screenshot from the Reading test

1

i Read the text, and choose one of the options below, then click on the button using the mouse.

In South Africa, spring begins in late August and early September. This is a country whose wild flowers are too beautiful to describe. Travelling from near the border with Namibia down towards Cape Town, we make frequent overnight stops, thus keeping journey times short and maximising the time available for wildflower searches and walks. When combined with brilliant sunshine, magnificent scenery and flowers in great numbers and variety, this is a dream tour in a world of flowers.

What is the best title for this text?

- ☐ South Africa's attractive climate
- ☐ Botanical holiday in South Africa
- ☐ South Africa safari
- ☐ Trekking in South Africa

5. Screenshot from the Structure test

1

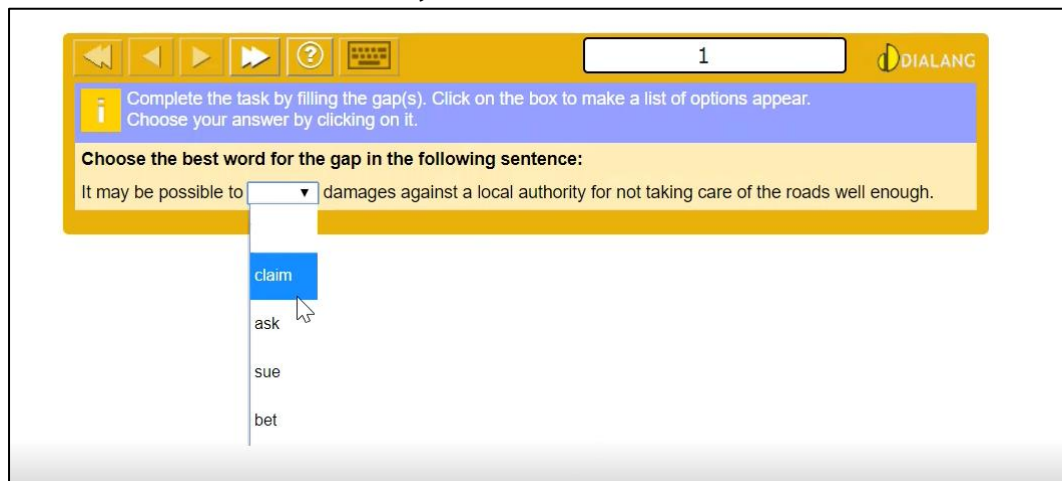
i Choose one of the options below, and click on the button using the mouse.

Choose the best answer for the gap (...) in the following sentence:

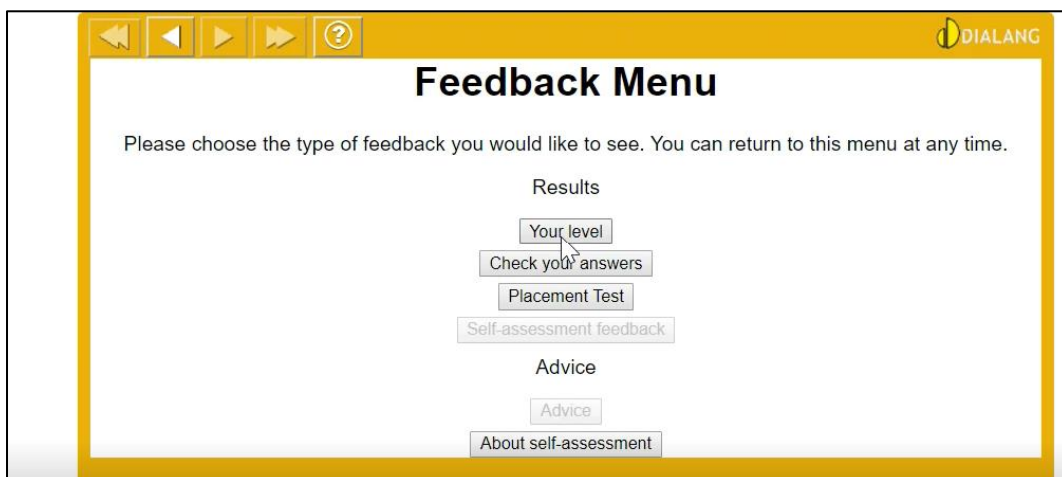
She has ... beautiful smile.

- ☐ -
- ☐ the
- ☐ a

6. Screenshot of Vocabulary test



Screenshot of feedback



APPENDIX C

VSK Test

- I. I don't remember having seen this word before. (1 point)
- II. I have seen this word before, but I don't think I know what it means. (2 points)
- III. I have seen this word before, and I think it means _____. (synonyms or translation) (3 points)
- IV. I know this word. It means _____. (synonyms or translation) (4 points)
- V. I can use this word in a sentence: _____. (if you do this section, please complete section IV) (5 points)

词汇熟悉度测试 (VSK Test Chinese version)

请根据以下要求，如实选择你对下列词和词组的认识程度。

1. 我之前没有见过/听过这个词/词组。
2. 我之前见过/听过这个词/词组，但我不知道它的意思。
3. 我之前见过/听过这个词/词组，我猜它的意思是____ (汉语意思或英语同义词)。
4. 我肯定它的意思是____ (汉语意思或英语同义词)。
5. 我能用它造句:_____ (做 5 必须先做 4)。


VSK Pretest

1. Accelerate: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
2. Accumulate: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
3. Advocate: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
4. Beneath: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
5. Bounce: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
6. Circumstance: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
7. Condemn: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
8. Concede: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
9. Disguise: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
10. Dissolve: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
11. Dominate: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
12. Enhance: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
13. Evolve: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
14. Frustrate: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
15. Flourish: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
16. Gratitude: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
17. Glimpse: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
18. Hazard: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
19. Heave: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
20. Illegal: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____

21. Inflation: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
22. Jealous: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
23. Jungle: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
24. Keen: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
25. Kindness: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
26. Launch: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
27. Lavatory: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
28. Margin: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
29. Molecule: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
30. Negotiate: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
31. Nitrogen: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
32. Omit: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
33. Overcome: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
34. Peculiar: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
35. Predict: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
36. Quote: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
37. Qualify: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
38. Resign: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
39. Routine: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
40. Sacrifice: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
41. Shiver: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____

42. Trace: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
43. Torch: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
44. Utilize: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
45. Utter: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
46. Vertical: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
47. Vivid: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
48. Wander: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
49. Victim: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____
50. Yawn: 1) 之前没见过; 2) 见过, 但不知其意;
3) 见过, 猜其意是: _____; 4) 其意是: _____; 5) 造句: _____

APPENDIX D

| Target words | Part of speech | Definition | the pictures in my life with description |
|--|--|--------------------------------|---|
| 1. depressed | Past participle of “depress” used as adjective 过去分词作形容词 | Unhappy or hopeless 抑郁的；沮丧的 |  <p>I broke up with my girl friend the other day and felt so depressed. 和女朋友分手后，我感到非常的沮丧。</p> |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| Reflection: (problems encountered in creating artefacts or learning the new words) (time spent on each task and location for completing these tasks) (briefly describe the learning process for today) | | | |

Template of students’ learning journal

APPENDIX E

Questionnaire for Experimental Group

Directions:

This questionnaire is designed to gather information about your opinions of the SMAVL program you participated. Please read each statement carefully and fill in the statement which represents your opinions. Your answers will be used confidentially. Your participation and cooperation are appreciated during the course. Thank you!

Part I Personal information

1. Name:
2. Gender:
3. Age:
4. Major:
5. How long have you studied English?
6. Have you learned any other languages? If yes, what is it?
7. Have you taken any language proficiency tests? If yes, what is your level?
.....
8. What activities do you often do to improve your English outside the classroom?
.....

Part II Opinions about the SMAVL program

Please read these statements and mark the box as your answer.

9. I like learning English vocabulary in this SMAVLE.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
10. This SMAVLE can help me improve my vocabulary learning.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
11. This SMAVLE can help me improve my accuracy of word spelling.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
12. This SMAVLE can help me remember the meanings of words.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
13. This SMAVLE can help me improve my accuracy in using words.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
14. This SMAVLE encourages my learning autonomy.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
15. This SMAVLE enables me to learn from my classmates.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
16. I have no difficulties learning in this SMAVLE.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree

17. I have no difficulties in completing all the tasks under this SMAVLE.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
18. I feel motivated to learn vocabulary in this SMAVLE
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
19. This SMAVLE can be applied at my university.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
20. I prefer learning vocabulary with the traditional approach to this one.
☐ Strongly disagree ☐ Disagree ☐ Undecided ☐ Agree ☐ Strongly Agree
21. What other factors do you think contribute to the improvement of your
vocabulary learning?

APPENDIX F

IOC analysis for a questionnaire on *Vocabulary Learning under the Seamless Mobile-Assisted Language Learning Environment*

| Item | Expert A | Expert B | Expert C | Expert D | Expert E | Expert F | Result of analysis |
|-------|----------|----------|----------|----------|----------|----------|--------------------|
| 1 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 2 | +0 | +0 | +1 | +1 | +1 | +1 | √ |
| 3 | +1 | +1 | +1 | +1 | +0 | +1 | √ |
| 4 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 5 | +1 | +1 | 0 | +1 | +1 | +1 | √ |
| 6 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 7 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 8 | +1 | +1 | +1 | +0 | +1 | +1 | √ |
| 9 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 10 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 11 | +0 | -1 | +0 | +1 | +1 | +0 | √ |
| 12 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| Total | 10 | 10 | 10 | 11 | 11 | 11 | √ |

Notes:

1. +1= the item is congruent with the objective
2. -1= the item is not congruent with the objective
3. 0=uncertain about this item

Result of IOC: ($IOC = \sum R/N$)

Item number: 12 R= 10+10+10+11+11+11 (Scores from experts)

N=6 (Number of experts)

$IOC = 63/6 = 10.5$

Percentage: $10.6/12 * 100\% = 87\%$

APPENDIX G

Questions for the semi-structured interview (For the experimental group)

Dear students,

This interview aims to elicit your opinions on the seamless mobile-assisted vocabulary learning environment (SMAVLE) you had joined. Please be aware that there is no right or wrong answer. Feel free to say anything you think and feel about this learning program. Your responses will be kept confidential. Thank you for your participation! **Guiding Questions**

1. What do you think of the SMAVLE in your vocabulary learning process?
2. Did you have any problems when you were learning vocabulary under this SMAVLE during the past 12 weeks? (If yes, what problems did you encounter?)
3. Through this 12-week learning, where did you use the mobile device for learning?
4. What are the benefits of using a mobile device when you conducted learning activities after class?
5. In your opinion, what are the biggest challenges when you conducted learning activities in class with mobile devices?
6. In your opinion, what is the effect or impact of this SMAVLE on your English vocabulary learning?
7. In your opinion, are there any other factors that affect your English vocabulary learning in general?
8. What do you think about the traditional way of vocabulary learning compared to this novel learning environment?
9. Have you changed your English vocabulary learning habits after this 12-week learning experience? If yes, what are the main changes?
10. How do you feel about the application of this SMAVLE to English vocabulary learning in your college?
11. What are “the most important tools or technologies needed for learning” from your perspective?
12. Could you provide some suggestions to improve the implementation of this new SMAVLE based on the 12-week learning?

APPENDIX H

IOC analysis for Semi-structured interview questions on *Vocabulary Learning under the Seamless Mobile-Assisted Language Learning Environment*

| Item | Expert A | Expert B | Expert C | Expert D | Expert E | Expert F | Result of analysis |
|-------|----------|----------|----------|----------|----------|----------|--------------------|
| 1 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 2 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 3 | 0 | +1 | +1 | +1 | +0 | +1 | √ |
| 4 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 5 | +1 | +1 | 0 | +1 | +1 | +1 | √ |
| 6 | +1 | +1 | +1 | +1 | +1 | +0 | √ |
| 7 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 8 | +1 | +1 | +1 | +0 | +1 | +1 | √ |
| 9 | +1 | +1 | +1 | +1 | +0 | +0 | √ |
| 10 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| 11 | +1 | +1 | +0 | +1 | +1 | +1 | √ |
| 12 | +1 | +1 | +1 | +1 | +1 | +1 | √ |
| Total | 11 | 12 | 10 | 11 | 10 | 10 | √ |

Notes:

1. +1= the item is congruent with the objective
2. -1= the item is not congruent with the objective
3. 0=uncertain about this item

Result of IOC: $(IOC = \sum R/N)$

Item number: 12 R= 11+12+10+11+10+10 (Scores from experts)

N=6 (Number of experts) $IOC = 64/6 = 10.6$

Percentage: $10.6/12 * 100\% = 88\%$