

Trial and Evaluation of the PLSPQ

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Introduction

The broad objective of this paper is to record a critical evaluation of the Perceptual Learning Style Preferences Questionnaire (PLSPQ) developed by Joy Reid in 1984. It is important to recall that Reid's instrument is over two decades old and research into the instrument itself and ongoing studies into the concept of "learning styles" may well relegate any evaluation here to the ranks of "academic" in concern. While the instrument is undoubtedly still in use, Wintergerst, DeCapua, & Itzen (2001) and Wintergerst, DeCapua, & Verna (2003) argue convincingly it is flawed on many levels and have provided the Learning Style Indicator as a possibly more valid and reliable alternative. Reid (1990) herself has expressed some retrospective concern over the reliability of the PLSPQ. Dornyei (2005) discusses a number of alternatives to Reid's questionnaire that cover a variety of style dimensions and adds that Ehrman & Leaver and Skehan's emerging constructs, neither of which concern themselves with Reid's focus on sensory preferences, are perhaps the most interesting and exciting concepts in the field of learning styles. In addition, he adds that in the field of ascertaining "pure" cognitive styles, Riding's Cognitive Styles Analysis represents "one of the most accurate instruments to measure styles" (134).

Learning Styles

If learning styles do in fact exist as definitively separate from "a wide range of diverse factors" (124), most might agree with Dornyei's description of the expression as "the habitual or preferred way the individual perceives, interacts with, and responds to the learning environment" (122). While Dornyei (2005) suggests research into cognitive styles, defined by Messick in Sadler-Smith (2001) as "consistent individual differences in preferred ways of organizing and processing information and experience" (610) may offer a firmer theoretical basis than that seen in the learning styles research, it is with the later that this paper primarily deals. Levels of field dependence and independence may have bearing on research into learning styles yet, as will be shown throughout with reference to many facets of determining and evaluating learning style, proving what influence these levels may exert on SLA is contentious. Griffiths & Sheen (1992) argue convincingly that the field of research into FD/I is a "wasteland" (145) positing, "field dependence/independence does not have, and never has had, any relevance for second-language learning" (133). Correspondingly, Dornyei cites evidence to suggest

the concept of FD/I is now largely discredited in the field (139).

Levels of extroversion and introversion are likewise seen as possibly important issues in SLA but conflicting claims as to the precise role these elements play abound. Dornyei (2005) suggests the relationship between intro/extroversion and learning is viewed as “insignificant” (26) by many but Dewaele & Furnham (1999) counter claiming this view is based on “misunderstanding originating in the 1970’s” (509). Again, how intro/extroversion is determined and referenced to language learning specifically is troublesome. A definitive characterization of an individual’s position on the scale of intro/extroversion could prove beneficial in determining individual or group study effectiveness.

The role culture plays in determining an individual’s learning style is also an as yet ill-defined factor. Studies seeking at least in part to determine broad culturally reflective learning styles have provided conflicting data. (Al-Dujaily, 2005; Markham, 2004; Reid, 1987; Sheikh Dibs, 2003). However, determining reliable indicators as to either how students in discrete cultural settings want to learn or can possibly learn best is central to evaluating new objections being raised to preconceived, stereotypical judgments over how certain cultures go about language learning (Littlewood, 2000; Prodromou, 1992). The trial administration of the PLSPQ described below is in part an attempt to evaluate if the instrument can play a role in providing accurate cultural profiles of learning styles and, therefore, suggest which teaching practices may be used most effectively in culturally homogeneous learning contexts.

Purpose and method

This trial of the PLSPQ has two distinct purposes; the first being to collect data on the broad sensory and group related learning styles of Gulf-Arab women in a local English medium university and, the second being to compare results of the trial between (relatively) high achieving students and lower achieving classmates. While a more advanced discussion of the data shown could have been possible with the use of sophisticated statistical analysis, the trial administrator has relied solely on the basic practice of recording the mean scores both for the total group of respondents and the two differentiated groups within the respondents. Rather than assign major, minor or negative classifications to the mean responses, the data is largely interpreted by viewing higher rated responses in comparison to lower rated responses. Comparisons made between other learning style studies follow a similar method.

Context, Subjects and Procedures:

The four subjects recruited for this trial are enrolled in the General Requirements Unit (GRU) on the women's campus of the flagship university of a Gulf-Arab state. The GRU has alternately been referred to by faculty and administration as a "remedial", "pre-university" and/or "foundational" learning program. Students must score a combined 4.5 or better on the IELTS to complete the English GRU process and enter the university as an undergraduate student.

The two members of Group A were selected from a 600 level course indicating they had either failed the pre-intermediate course before or had received D or C marks in a previous high-beginner course. Both of Group A's subjects were beginning their third semester within the GRU system. These students were both 19-year-old nationals and native Arabic-speakers.

The two members of Group B were selected from a 900 level course indicating they were beginning their first semester within the GRU and they had scored within the top 80th percentile of the band GRU assigned to level 2. These students were both 18-year-old nationals and native Arabic-speakers.

The subjects were briefed on the purpose of the trial instrument, read and signed the participation consent form, and were given an opportunity to ask questions about the instrument and process. The students completed the trial instrument separately from the administrator but were encouraged to discuss ambiguous questions among themselves. Cost and time concerns made a translation of the instrument impossible. Providing personal explanations of test items to subjects was seen as both introducing an unacceptable element of unreliability into the trial and would have been impossible to provide in subsequent administrations if the instrument were deemed reliable and valid enough to encourage widespread future use.

Results

As the data recorded in Appendix A illustrates, the respondents as a whole showed a positive preference for group learning and, by comparison, a rather negative preference for individual learning. Tactile and kinesthetic styles are preferred over either visual or auditory with auditory style ranking the lowest of the four.

A comparison between Group A and Group B shows that responses differing .3 points or less are seen with kinesthetic, visual and group style preferences while a .5 difference is seen with regard to both tactile and auditory learning styles. The greatest difference in ranking of styles is seen with respect to individual learning preferences. Group A recorded a mean score of 3.3 while Group B ranked independent learning as

the lowest at 2.3, one full point below Group A. It is worth noting that neither candidate in Group B provided a response for Q. 28 and one respondent did not reply to Q. 17.

Reliability and Validity

It has been convincingly argued that the PLSPQ suffers from reliability and validity problems (Wintergerst, DeCapua & Itzen, 2001; Wintergerst, DeCapua & Verna, 2003) and this trial tends to justify a number of those concerns. While some of these problems stem from the self-assessment method used, other problems are apparent with regard to question comprehension and interpretation. Problems with the instrument were viewed as significant enough to make an analysis of data recorded rather meaningless. Instead, results are largely viewed in light of their unreliability and lack of validity rather than as justifiable determinants of the subjects' learning styles.

Reid (1987) credits Gregorc with the observation that "students may not self-report accurately" (102). Within the GRU curriculum there is little if any opportunity for students to "make a model" or "build something" in class yet the mean preference for tactile styles tied for highest with kinesthetic style at 4.7 points. This begs the question: were the students responding to what they would like to do in class or to how well they like what they actually do in class? Experiential evidence coupled with information garnered from ad hoc post-trial oral interviews suggests that subjects were indeed responding in Qs. 11 and 17 to what they would like to do rather than what they actually do. One subject indicated "building" sounded like fun. The only conclusion forthcoming in light of this information is that Qs. 11 and 17 cannot be validated since the tasks described do not exist within the criterion.

Another significant concern was with what Wintergerst (2001) calls "language problems on the part of the participants" (389). Reid (1987) states in her trial of the PLSPQ the instrument was given to students in the United States "in high intermediate or advanced ESL classes" (92). As such, the administrator anticipated problems and wrote what students might see as difficult words on note-cards to be used after the instrument was completed (see Appendix B). When asked if subjects could explain or define the selected words in either Arabic or English, an alternating half of the subjects clearly could not. The total number of questions this effected was 6.

In addition, none of the subjects were able to explain or provide examples of "role playing" (Q. 19) or explain what was actually meant in Q. 26 by "participate in related activities". A failure of students to accurately comprehend what survey items were asking in at least eight questions lends significant credence to Wintergerst's claim that results on the PLSPQ contradicted information collected from oral interviews

(Wintergerst, 2001). The examples above suggest that the context or the environment and subjects expected to reply to the PLSPQ play a major role in determining the overall reliability of the instrument.

As stated, results from the PLSPQ show by comparison a strong preference for group over individual learning styles. This finding directly contradicts Reid's own findings within the Arab population of her own trial (1987). In agreement, Sheikh Dibs' (2003) administration of the MBTI to a group of 100 Omani students led him to believe that "most Arab students are internally motivated...which means that they prefer one-to-one communication and relationship rather than group discussion" (2). However, Al-Dujaily (2005) provides information from Harshbarger et al (1986) and Willing (1988) that indicates "Arabic-speaking students" prefer an extroverted rather than introverted style of learning suggesting a group orientation is preferred over an individual. In support, Flowerdew's (1998) research into the learning style preferences of Chinese students offers evidence to suggest that although wide differences may be seen between Chinese and Arab culture, a similar preference within both societies at large for group cohesion and "learning interdependency" (324) suggests group rather than individual learning styles are largely preferred. Jones' (1995) work on autonomy in self-access centers also suggests that "in many countries between Morocco and Japan" (229) a communal approach to learning is preferred and perhaps encourages the best results for language learning students.

A case, therefore, could be made for the broad validation of the findings that Arab students prefer group learning styles to individual styles but contention exists. The variety of learning style instruments currently in use in myriad cultural and educational contexts makes comparative validation of the current trial's findings difficult at best. What might be argued most strongly is that culture and its obvious control over "previous educational experience" (98, Reid, 1987) plays an important role in forming learning style preferences yet the issue needs more credible research to determine both the extent and flexibility this control exerts.

Conclusion

This limited trial of the PLSPQ and the results it offers convinces the trial administrator that a more widespread use of it in the local context to determine broad and group specific learning style preferences would be ill advised. In part, this is due to a proven lack of reliability and validity within the instrument itself. However, larger issues surrounding the field of study into learning styles itself also play a considerable role. If Markham (2004) is correct in suggesting the Mental Measurements Yearbook (the

'bible' of psychometric testing) provides "scathing" reviews of at least four of the learning style instruments they design review, what can be said of the language learning community's progress towards clearly identifying and/or measuring learning styles? (see Appendix C). While Dornyei (2005) states these instruments are largely "for practical rather than research purposes" (141-2), one must wonder why, even in the classroom context, such instruments continue to be used in the face of such unreliability, lack of validity, and inter-professional derision?

Works Cited

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Appendices:

Appendix A:

Mean Results of the PLSPQ

	Group A mean:	Group B mean	Total mean
Group (Q. 3, 5, 4, 21, 23)	4.5	4.2	4.35
Individual (Q. 13, 18, 27, 28, 30)	3.3	2.3	2.8
Visual (Q. 6, 10, 12, 24, 29)	4.3	4	4.15
Auditory (1, 7, 9, 17, 20)	4.3	3.8	4.05
Tactile (Q. 11, 14, 16, 22, 25)	4.2	4.7	4.45
Kinesthetic (Q. 2, 8, 15, 19, 26)	4.5	4.7	4.6

(Question grouping taken from Wintergerst (2001) Appendix A (401))

Appendix B

Problem Words and questions containing them

word	Question number
instructions	1, 10, 12
lecture	17, 29
assignment	21

Appendix C

Markham (2004) does indeed seem to be correct. A smattering of statements found within the Mental Measurements Yearbook referring to Kolb's "Learning Style Inventory Version 3" and Dunn et al.'s "Learning Style Inventory" include:

"the scale cannot be recommended for use until such time as these gross deficiencies are remediated"

"the LSI has no redeeming values"

"Given the paucity of information on the normative group, any interpretation of the scores is not meaningful"

"Scant evidence of reliability for scores from the LSI is provided in the manual"

"the LSI possesses a number of psychometric limitations that may derive from the lack of a clear and concise theoretical paradigm for its development"

(information taken from:

<http://gateway.ut.ovid.com.ezproxy.auckland.ac.nz/gw1/ovidweb.cgi>

MMY reviews keyword search "learning style")