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## ABSTRACT

An action research project was conducted to understand the learning style profile of Irish adult learners better and to integrate the findings into development seminars for adult education teachers and tutors. The Grasha-Riechmann Student Learning Styles Scale (GRSLSS) was chosen as the research instrument to explore Irish adults' learning styles with 532 adult education learners attending certificate or diploma programs organized by University College Cork. Six styles were measured: Independent, Dependent, Participant, Avoidant, Collaborative, and Competitive. Data indicated Irish adult learning styles were high in the dimensions of Participant, Collaborative, and Dependent and low Avoidant and Competitive. The analysis of variance results confirmed comparative findings with the GRSLSS with males adopting more Independent and Competitive styles than females and older learners more participatory in style and younger learners higher in Avoidance and Competitiveness. (Contains 25 references and 7 tables.) (YLB)

# The Social-Interaction Learning Styles of Irish Adult Learners: Some Empirical Findings

Máirtín Ó Fathaigh

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1

# THE SOCIAL-INTERACTION LEARNING STYLES OF IRISH ADULT LEARNERS: SOME EMPIRICAL FINDINGS

## 1. Background and Rationale

Messick (1978), Smith (1984), Rogers (1986), Felder (1993), Cranton (1992), Grasha (1996), Marks (1998), McLoughlin (1999) and other researchers have identified a wide range of adult learning styles in the research literature including field independent or dependent, reflective or impulsive, convergent or divergent. Tennant (1988) refers to the importance of the acceptance by adult educators that such differences exist between learners in an adult learning environment. Firstly, it serves to emphasise the value of the adult learning process *qua* process, in contrast to highlighting mere teaching approaches and methodological techniques. Secondly, it brings into focus the differential distribution of control and power between learners and teachers in the adult learning environment. Thirdly, it concentrates attention on the qualitative and formation nature of learners' strengths and weaknesses so that "the operative term describing learners becomes 'different' rather than 'bad' 'poor' 'average' 'good' and 'very good' (Tennant, 1988, p.90).

McLoughlin (1999) points out that an enduring and fundamental topic for educational research is "the effect of individual differences on the efficacy of learning" (p. 222). For example, it is argued that the quality of learning materials in self-instructional programmes is enhanced if such materials are designed to take into account individual learning styles (Rasmussen, 1998; Riding and Grimley, 1999). Diaz and Cartnel (1999) compared learners' learning styles of traditional/non-traditional (Distance) university students and argued that their data supported the view that:

*"Faculty who are putting a traditional course online, should consider administering a student learning style inventory to both their distance and traditional students. Knowledge of student learning preferences can aid faculty in class preparation, designing class, delivery methods, choosing appropriate technologies, and developing sensitivity to differing student learning preferences within the distance education environment" (p. 131)*

Sarasin (1998) noted that academic teaching staff should be willing to modify/change their teaching strategies and techniques based on their appreciation of the range and variety of student learning styles. He claimed, *inter alia*, that "teachers should try to ensure that their methods, materials and resources fit the ways in which their student learn and maximize the learning potential of each student" (Sarasin, 1998, p.2).

The area of adults' learning styles is of particular personal and professional interest to this writer, especially in his role as a team-member charged with the initiation, design, delivery and evaluation of a myriad of diverse learning programmes for adults from a very broad continuum of interests, backgrounds and abilities in community/professional education settings located in an extensive set of learning environments and geographical locations. The author seeks to assist these learners develop their academic self-confidence, realize their intellectual capacity, become engaged as "owners" of their learning and seek, where appropriate to apply their learning in life roles. Merriam and Caffarella's (1991) definition of learning style has particular appeal to this writer, *viz.*, "the individual's characteristic way of processing information, feeling and behaving in learning situations" (p. 176). The ways in which learners interact in adult learners' classrooms and deal with

such elements as attention, emotion, valuing etc. appear to be reflective of the affective dimension of learning. They reveal, *inter alia*, individual/group preferences for a range of social settings, activities and social constraints of learning including individual tasks, paired activities, and team roles.

In the Irish context little empirical research has been conducted with adult learners in order to understand and delineate their learning styles. The absence of such a learning style profile represents a significant lacuna in the training of adult educators. Dixon (1985, p.16-27) outlined the value of such learning style information for adult teachers whose roles include:

- ◆ Helping individuals understand themselves as learners (e.g. through the critical application of learning style inventories and through introspection).
- ◆ Encouraging individuals to expand their learning styles (e.g. by discussing learning strategies with students).
- ◆ Using a variety of instructional approaches (so that learners experience different ways of learning).
- ◆ Creating an environment in which diversity can thrive (e.g. through the creative use of learning contracts).
- ◆ Creating a climate in which collaboration exists (e.g. by using others as resources).

The primary purpose of the action research project reported on here was to better understand the learning style profile of Irish adult learners and to integrate these findings into development seminars for adult education teachers and tutors.

## ***2. Learning Styles Research Instrument***

The **Grasha-Riechman Student Learning Styles Scale (GRSLSS)** was chosen as a research instrument to explore Irish adults' learning styles. The instrument focuses on how learners interact with teachers, other students and the learning process. The instrument, because of this focus, is within the general learning style category of social-interaction models (Riechmann, 1980), in contrast to other classifications of learner differences such as cognitive styles or developmental-stage models. This scale addresses learners' preferences/views by seeking responses to queries regarding attitudes towards learning, views of teacher and/or peers, and reactions to classroom procedures and activities. (James and Gardiner, 1995).

Six styles are measured by the GRSLSS, *viz.* Independent, Dependent, Participant, Avoidant, Collaborative and Competitive. Each scale or dimension is outlined in Table 1.

Originally, the six dimensions were thought to be three bipolar pairs or three sets of opposites. However, Andrews (1981) and other researchers indicate that:

- ◆ Participant and Avoidant Styles most consistently have a negative relationship.
- ◆ Competitive and Collaborative dimensions appear to be independent of each other.
- ◆ Independent and Dependent dimensions may have a low negative relationship.

Also, learners appear to prefer all six of the dimensions to some degree i.e. students do not seem to adopt any one of the dimensions/styles exclusively. Instead they seem to have learning style profiles which indicate varying strengths of preference of each of the six dimensions/styles. While learners may generally prefer certain styles, this preference can and often does change depending on variables such as how the teacher structures the class, the degree of student influence, organisation and clarity in the class etc. (Grasha, 1982, p.81).

### **3. Research Population Profile and Methodology**

An adapted and shortened form of the GRSLS formed the basis for the research project with over 500 adult education learners attending certificate (1 year) and/or diploma (2 years) programmes organised by University College Cork (U.C.C.). Such research has not been reported previously in relation to Irish adult learners' learning styles. The respondents (N = 532) completed end-of-academic year questionnaires in 30 learning centres and the process was facilitated and supervised by adult education tutors of U.C.C. Details regarding the age, gender, social class, status, programmes and locations of respondents are outlined in Table 2. Interestingly, 49% of respondents were: a) over 40 years of age; b) nearly 80% were female, and; c) one-third of the group had completed their previous formal education at age 15 years approximately. Also, Table 2 reveals a spread of respondents on the **Irish Social Class Scale**, with 26% located in the lower social class groups five and six. This ordinal scale (six groups) seeks to measure primarily the differing economic resources people in the six classes have in terms of income and other fringe benefits which to a large extent determine their access to health, education, leisure and other facilities. Occupation, including employment status, is used as the indicator of social class in this scale.

The six-dimension GRSLS instrument was administered to the adult learners in a four week period in April, 2000. The raw data was subjected to computer analysis using the SPSS<sup>X</sup> programme. A range of statistical analyses including, overview of data, means for each dimension, analysis of variance for sub-groups of learners, correlational analysis, and reliability data for the GRSLS itself, were used to seek to better understand these adult learners' learning styles.

### **4. Research Findings**

Table 3 presents the broad overview of the means scores for each of the six learning styles. Interestingly, the **Participant** ( $\bar{x} = 34.11$ ) **Collaborative** ( $\bar{x} = 30.01$ ) and **Dependent** ( $\bar{x} = 29.04$ ) appear to be the dominant learning styles in this set of data, with the **Avoidant** ( $\bar{x} = 15.28$ ) and the **Competitive** ( $\bar{x} = 16.28$ ) styles recording the lowest scores. Essentially, these three learning styles seem to confirm learners' verbal comments on the climate of learning. Consistent with the motivating and guiding pedagogy of the Centre for Adult Continuing Education teachers and tutors seek to develop a learning environment, which is participative and interactive, through strategies such as class discussions, group projects and peer support networks. Also, the high value for the **Dependent** style may reflect learners' previous educational experiences in first and second level schools which, it could be argued, are dependency-creating learning structures and process. In this regard it is worth noting the relatively high value attaching to the **Independent** style ( $\bar{x} = 26.48$ ), which may suggest that as learners progress through their adult education programmes, that they move toward a more independent style of learning. The manner in which those broad learning styles reflect learners' responses are evident in the following specific items:

- ◆ 90% agree that “I try to participate as much as I can in all aspects of the course”.
- ◆ 96% agree that “I think students can learn more by sharing their ideas than by keeping their ideas to themselves”.
- ◆ 85% agree that “I accept the structure teachers set for the course”.
- ◆ 92% disagree that “I have given up trying to learn anything from going to class”.
- ◆ 74% agree that “I think I can determine what the important content issues are in a course”.
- ◆ 86% disagree that “To get ahead in class, I think sometimes you have to step on the toes of other students”.

This overview provides evidence for the belief that these adults’ learning styles tend to reflect their perceptions of the psychosocial climate of the learning environments as measured by the dimensions of the **Adult Classroom Environment Scale (ACES)** (Ó Fathaigh, 1998). Interestingly, the **Teacher Support** (defined as sensitivity and encouragement), **Affiliation** (defined as student interaction and cohesion), and **Organisation/Clarity** (defined as class organisation and clarity) were the dominant aspects of classroom climate identified by the learners.

Significantly, the correlation coefficients in Table 4 indicate the interaction of the **Avoidant** and **Participant** styles of learning with the seven dimensions of the ACES. A clear pattern of negative relationships ( $p < .001$  in each case) between the **Avoidant** style and each classroom climate element, and positive relationships ( $p < .001$  in each case) between the **Participant** style and **Involvement** ( $r = .55$ ), **Teacher Support** ( $r = .54$ ), **Organisation and Clarity** ( $r = .53$ ), **Personal Goal Attainment** ( $r = .51$ ) is evident in the table.

Table 5 presents evidence which suggests that (i) the **Participant** and **Avoidant** styles appear to have a negative relationship ( $r = -.58$ ) (participants who score highly on one scale are likely to score at the low end of the other scale), (ii) the **Independent** and **Dependent** styles have no significant relationship ( $r = .05$ ), and (iii) the **Collaborative** and **Competitive** scale also appear to be independent of each other ( $r = .09$ ). These Irish findings support the evident of Riechman and Grasha (1974) regarding the relationships between the six dimensions of the **GRSLSS**.

Additionally, Table 5 presents data in relation to the reliability of the six dimensions of the **GRSLSS** as measured by Alpha, Guttman split-half, and equal-length Spearman-Brown coefficients of reliability. The **Competitive**, **Collaborative** and **Avoidant** scales present the highest coefficient values ranging from an **Alpha** value of  $r = .74$  for **Competitive** to  $r = .70$  for the **Avoidant** style ( $p < .001$ ). These statistical analysis of internal reliability appear to confirm the robustness of the **GRSLSS** instrument and its use as a tool in seeking to delineate Irish adults’ learning styles.

Analysis of variance between interesting sub-groups of learners was used to further explore the data set. Interestingly:

- ◆ Gender differences were revealed in relation to **Independent** ( $p < .01$ ) and **Competitive** ( $p < .05$ ) learning styles with the male population manifesting a higher mean score in both cases.
- ◆ In the case of the age profile of learners a clear and significant pattern of differences between younger and older participants presented for four of the six learning styles. a) Younger learners



had higher means scores for the **Avoidant** style than did older learners ( $p < .001$ ) b) Older learners recorded the highest mean scores for the **Dependent** learning style ( $p < .001$ ) c) Younger learners recorded the highest mean scores for the **Competitive** style ( $p < .05$ ) d) Older learners presented a consistently higher pattern of mean scores on the **Participant** style ( $p < .001$ ).

- ◆ In relation to the levels of prior education attainment of learners a consistent pattern of higher mean scores among those who completed their education early on the **Collaborative** ( $p < .05$ ), **Dependent** ( $p < .001$ ), **Competitive** ( $p < .05$ ) and **Participant** ( $p < .01$ ) styles than those who had attained Leaving Certificate or completed third-level education.
- ◆ Lower social class learners recorded significantly higher mean scores on the **Collaborative** ( $p < .05$ ) and **Dependent** ( $p < .01$ ) learning styles than higher social class participants.
- ◆ Further significant differences between learners' learning styles were evident in relation to the types of learning programmes attended by participants a) Youth and Community Work learners recorded the highest mean scores on the **Collaborative** style ( $r = 33.28$  S.D. = 4.16) and Diploma in Environmental Science and Social Policy ( $r = 27.28$  S.D. = 6.48) the lowest scores ( $p < .001$ ) b) The highest **Dependent** Style scores were associated with Environmental Science and Social Policy students ( $r = 30.08$  S.D. = 4.48) and the lowest scores with Diploma in Employee Welfare participants ( $r = 26.80$  S.D. = 3.76) ( $p = .01$ ) c) Housing Estate Management students recorded the highest **Competitive** learning styles ( $r = 21.12$  S.D. = 5.76) in comparison to the lower Environmental Science and Social Policy group ( $r = 13.21$  S.D. = 4.4) ( $p < .001$ ) d) Social Studies learners had the highest **Participant** learning style ( $r = 34.41$  S.D. = 3.6) in comparison to Social and Community Studies students ( $r = 31.08$  S.D. = 3.62) ( $p < .05$ ). Table 6 presents an overview of salient significant differences between learners in relation to learning styles.

## 5. Summary and Conclusions

Essentially, the research data from this project confirm that Irish adult learning styles are high in the dimensions of **Participant**, **Collaborative**, and **Dependent** and low **Avoidant** and **Competitive**. Interestingly, the analysis of variance results confirm comparative findings with the GRSLSS with:

- ◆ males adopting more **Independent** and **Competitive** styles than females (Kraft, 1976)
- ◆ older learners more participatory in style and younger learners higher in Avoidance and Competitiveness (Grasha, 1979; Elison and Moore, 1979). Also, the differences in learning style associated with particular programmes may indicate that while the learners generally prefer certain styles, this set of preferences may change depending on the orientation of the programme and how the teacher structures the class. Students' styles profiles may shift in response to the demands/organisation of a particular teachers methods, assignments, evaluation processes, laboratory work etc.

One very valuable use of this instrument is the manner in which feedback to adult education teachers in regard to the learning styles profile of their learners may help these teachers design instructional strategies and procedures to meet the style preferences of students. These data may ensure that teaching faculty will be more sensitive to possible learners anxiety and discomfort with less familiar classroom roles, such as moving to more independent learning situations, participating in experiential activities rather than lectures, engaging in collaborative groups projects etc. It may

well be that teachers introduce new methods or remain with one approach and not be aware of the consequences of these decisions for overall student learning and satisfaction. In this regard the classroom activity preferences, based on research data, may be valuable to teachers of adults as outlined in table 7.

Learners may also benefit from self-knowledge of their individual styles. For example, awareness of ones own style(s) may help explain why some courses or parts of courses seem easier/or more difficult than others and thus reduce anxiety associated with seemingly daunting assignments and tasks. Also, the GRSLS provides a broader framework again which adult learners can assess the breadth of their readiness and ability to respond, with confidence and effectiveness, to a variety of learning strategies and formats. If we are to assist the adult student cohort to be more effective and confident learners, then attention to learners' differences and their interactions with classroom preferences, evaluation procedures and learning need to feature as key elements in the design and delivery of quality adult learning. A further stage in this research project will examine the learning style of adult participating a range of different learning environments, including distance learning, e-learning and others.

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**TABLE 1**

<i>Style</i>	<i>GRSLSS Learning Styles</i>
<b><i>Competitive</i></b>	This response style is exhibited by students who learnt material in order to perform better than others in the class. They feel they must compete with other students in the class for the rewards of the classroom, such as grades or teachers' attention. They view the classroom as a win-lose situation, in which they must always win.
<b><i>Collaborative</i></b>	This style is typical of students who feel they can learn the most by sharing ideas and talents. They cooperative with teachers and peers and like to work with others. They see the classroom as a place for social interaction as well as content learning.
<b><i>Avoidance</i></b>	This response style is typical of students who are not interested in learning course content in the traditional classroom. They do not participate with students and teachers in the classroom. They are uninterested or overwhelmed by what goes on in classes.
<b><i>Participant</i></b>	This style is characteristic of students who want to learn course content and like to go to class. They take responsibility for getting the most out of class and participate with others when told to do so. They feel that they should take part in as much of the class-related activity as possible and little that is not part of the course outline.
<b><i>Dependent</i></b>	This style is characteristic of students who show little intellectual curiosity and who learn only what is required. They see teacher and peers as sources of structure and support. They look to authority figures for guidelines and want to be told what to do.
<b><i>Independent</i></b>	This response style is characteristic of students who like to think for themselves. They prefer to work on their own, but will listen to the ideas of others in the classroom. They learn the content they feel is important and are confident in their learning abilities.

**TABLE 2***Age, Distribution, Gender, Educational Attainment, Social Class and Location of Respondents*

1.	532 respondents in survey
2.	<p>AGE DISTRIBUTION:</p> <p>18 - 29 years - 21%      50 - 59 years - 12%</p> <p>30 - 39 years - 30%      60 - 69 years - 2%</p> <p>40 - 49 years - 33%      70 - 79 years - 2%</p>
3.	<p>GENDER DISTRIBUTION</p> <p>Female - 78%      Male - 22%</p>
4.	<p>EDUCATION:</p> <p>Primary only - 6%      Leaving Certificate - 42%</p> <p>Left before Inter - 7%      Completed 3<sup>rd</sup> Level - 25%</p> <p>Attained Inter/Group - 20%</p>
5.	<p>SOCIAL CLASS STATUS:</p> <p>Social Class Group 1 - 0%      Social Class Group 4 - 31%</p> <p>Social Class Group 2 - 22%      Social Class Group 5 - 23%</p> <p>Social Class Group 3 - 21%      Social Class Group 6 - 3%</p>
6.	<p>LOCATION:</p> <p>City - 51%      Town - 20%      Village - 8%      Rural - 21%</p>
7.	<p>Diploma in Social Studies (N = 356)</p> <p>Diploma in Social and Community Studies (N = 25)</p> <p>Diploma in Environmental Science and Social Policy (N = 18)</p> <p>Diploma in Employee Welfare (N = 18)</p> <p>Diploma in Geology (N = 23)</p> <p>Diploma in Youth and Community Work (N = 77)</p> <p>Diploma in Housing Estate Management (N = 17)</p> <p style="text-align: right;">Total N = 532</p>

**TABLE 3**  
*Irish Adults' Learning Styles: Mean Scores for the Six Dimensions of the GRSLSS*

	<b>Dimension</b>	<b>Mean</b>	<b>S.D.</b>	<b>*</b>
1.	Independent	26.48	4.08	24.72
2.	Avoidant	15.28	5.06	17.44
3.	Collaborative	30.01	4.89	29.36
4.	Dependent	29.04	4.54	29.36
5.	Competative	16.24	5.28	22.16
6.	Participant	34.11	3.56	31.76

Mean Scores from 40 to 8      Eight items per dimension      N = 532

\* University of Cincinnati Mean Scores. N = 327

**TABLE 4**  
*Correlations between Avoidant and Participant Learning Styles and the seven dimensions of the Adult Classroom Environment Scale (ACES)*

<b>ACES Dimensions</b>	<b>Avoidant Learning Style</b>	<b>Participant Learning Style</b>
Student Influence	- .26	N/S
Personal Goal Attainment	- .38	.51
Organisation/Clarity	- .43	.53
Involvement	- .47	.55
Task Orientation	- .49	.40
Application	- .35	.44
Teacher Support	- .36	.54

P < .001 in all cases      N = 532

**TABLE 5**  
*Correlation and Reliability Coefficients for the six dimensions of the GRSLSS*

Alpha	G. spl.½	Spr-Br		Indep.	Avoid.	Collab.	Depend.	Comp.	Partic.
.53	.46	.45	Indep.	/				.28	
.70	.65	.67	Avoid.		/			.43	-.58
.71	.66	.68	Collab.			/	.29		
.59	.56	.57	Depend.			.29	/		.42
.74	.75	.73	Compet.		.43			/	
.59	.62	.63	Partic.		-.58				/

Coefficients which are statistically significant at the  $P < .001$  levels are presented

**TABLE 6**  
*Overview of Differences in Learning Styles*

<i>(i) Gender</i>		
Independent	Males Higher	$p < .01$
Competative	Males Higher	$p < .05$
<i>(ii) Age Related</i>		
Avoidant	Younger Learners Higher	$p < .001$
Dependent	Older Learners Higher	$p < .001$
Competative	Younger Learners Higher	$p < .05$
Participant	Older Learners Higher	$p < .001$
<i>(iii) Prior Educational Attainment</i>		
Collaborative	Early Leavers Higher	$p < .05$
Dependent	Early Leavers Higher	$P < .001$
Competative	Early Leavers higher	$p < .05$
Participant	Early Leavers Higher	$p < .01$
<i>(iv) Social Class</i>		
Collaborative	Lower Social Class Higher	$p < .05$
Dependent	Lower Social Class Higher	$p < .01$

**TABLE 7**

<i>Style</i>	<i>Classroom Activity Preferences</i>
<b><i>Competitive</i></b>	To be a group leader in discussion or when working on projects ... To ask questions in class ... To be singled out for doing a particularly good job on a class-related activity. No real preference for any one classroom method over another (e.g., lectures, seminars, etc.) as long as the method has more of a teacher-centered focus than a student-centered focus.
<b><i>Collaborative</i></b>	Lectures with class discussion in small groups ... Small seminars ... Student-designed and taught courses and classes ... Group rather than individual projects ... Peer determined grades ... Talking about course issues outside of class with other students ... Instructor-group interaction.
<b><i>Avoidant</i></b>	Generally turned off by classroom activities ... Preferences include no tests ... Self-evaluation for grading ... No required readings or assignments ... Blanket grades where everyone get a passing grade ... Does not like enthusiastic teachers ... Does not prefer well-organized lectures ... Does not like instructor-individual interactions.
<b><i>Participant</i></b>	Lectures with discussion ... Opportunities to discuss material ... Likes both objective and essay type tests ... Class reading assignments ... Likes enthusiastic presentations of material ... Prefers teachers who can analyze and synthesize material well.
<b><i>Dependent</i></b>	Teacher outlines or notes on the board ... Clear deadlines for assignments ... Teacher-centred classroom methods.
<b><i>Independent</i></b>	Independent study ... Self-paced instruction ... Problems that give the student an opportunity to think for himself ... Projects that the student can design ... Prefers a student-centered classroom setting over a teacher—centered one.





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