



Learning Styles in Cooperatives Course Offered in Three Modes

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- How are learning styles and sense of classroom community related
- Implications for cooperatives course and cooperative leader development

- Teaching methods and associated learning styles (Novak et al. 2006)

Dependent	Teacher-centered questioning and discussion Role model by direct example
Participant	Lectures Role model by illustration Case studies Journal
Competitive	Exams and grades
Collaborative	Coaching Problem-based learning Self-discovery activity
Independent	Roundtable discussion Panel discussion
Avoidant	<i>Not classified</i>

Learning Styles

- **Independent** - learners prefer self-paced instruction and to work alone more than with other students on course projects.
- **Dependent** – look to teachers and peers for guidance and prefer an authority figure to tell them what to do.
- **Competitive** – learn in order to distinguish themselves by virtue of their performance and to receive recognition
- **Collaborative** – acquire information by sharing and cooperating with teachers and peers. Small group discussion and group projects are enjoyed.
- **Avoidant** – not enthusiastic about attending class or acquiring content. Overwhelmed by class activities.
- **Participant** – interested in class activities, eager to do as much work as possible. Aware of and desire to meet teacher expectations.
- Grasha scale

- Sense of classroom community
- SCCI
 - **Spirit** – feeling of belonging to and acceptance of group identity
 - **Trust** – group members will give feedback to each other
 - **Interaction** – learners believe they will benefit by interacting with class members
 - **Learning** – knowledge is constructed by the community discussing information

- Data

- Fourth year class; second year class

- Two midwestern universities
 - One two-year college
 - Same topical content; assessments varied between 2- and 4-year students; same presentation

- Convenience sample of 66 students

- 54 enrolled online (19 participated – 35%)
 - 15 enrolled in distance (15 participated – 100%)
 - 47 enrolled in classroom (32 participated – 68%)

- One semester; looking for more (6 successful completions in summer; 9 attempts; 22 enrolled; 41% participation)

Observed Learning Styles

Learning style	Classroom-based		Online		Distance	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Competitive	2.42	0.46	2.72	0.26	2.23	0.56
Avoidant	2.86	0.62	2.57	0.42	2.68	0.53
Independent	3.42	0.38	3.41	0.26	3.16	0.44
Collaborative	3.55	0.55	3.61	0.55	3.81	0.48
Dependent	3.55	0.41	3.62	0.31	3.57	0.40
Participant	3.57	0.57	3.67	0.35	3.50	0.39

- Some learning styles are correlated
 - Classroom:
 - Independent and participant
 - (-0.33; $p=0.08$)
 - Avoidant and participant
 - (0.78; $p=0.01$)
 - Online:
 - Independent and participant
 - (0.70; $p=0.03$)
 - Distance:
 - Independent and
 - avoidant (0.52; $p=0.06$)
 - competitive (0.63; $p=0.03$);
 - Avoidant and
 - dependent (0.54; $p=0.05$)
 - competitive (0.68; $p=0.02$)
- **Delivery modes are different**
- **Correlations between less strong styles**

Observed Sense of Community

Category	Classroom-based		Online		Distance	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Trust	31.17	4.81	29.09	3.81	34.36	4.41
Spirit	34.54	5.89	28.93	5.36	35.40	6.88
Interaction	35.60	6.52	33.70	4.97	35.80	4.25
Learning	39.58	6.25	37.86	4.26	38.47	5.68

- Some sense of community styles are correlated
 - Classroom:
 - Spirit and trust, interaction, learning
 - Trust and interaction, learning
 - Interaction and learning
 - Online
 - Spirit and interaction, learning
 - Trust and interaction
 - Interaction and learning
 - Distance
 - Spirit and interaction, learning
 - Trust and learning
 - Interaction and learning
- Strong, positive correlation among community styles, including strongest styles
- Classroom is richer correlation, but overlaps with online and distance
 - Spirit and learning correlation weaker compared with online and distance; other magnitudes comparable

Average Dominant Learning Style by Dominant Community Sense

	Spirit		Trust		Interaction		Learning	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Independent	3.64	0.51	3.10	0.37	3.37	0.33	3.33	0.36
Avoidant	3.33	0.26	2.67	0.47	2.78	0.46	2.69	0.60
Collaborative	3.85	0.49	4.20	0.17	3.57	0.24	3.59	0.59
Dependent	3.45	0.70	3.50	0.00	3.66	0.38	3.56	0.37
Competitive	2.65	0.33	2.45	0.61	2.49	0.41	2.39	0.51
Participant	3.25	0.60	3.32	0.29	3.72	0.40	3.59	0.51

- Differences in strength of preference in learning style by delivery mode
 - Strongest in classroom: participant interactive
 - Strongest in online: participant interactive
 - Strongest in distance: collaborative spirit
- Differences in strength in sense of community by delivery mode
 - Spirit strongest in online
 - Trust strongest in online
 - Interaction strongest in online
 - Learning strongest in online
- Differences by delivery mode

Conclusions

- Naïve interpretation: cooperative class students usually comprised of “collaborative” learning style students who like to construct knowledge in the classroom
 - Collaborative means sharing and cooperating with teachers and peers
- Strongest style is **collaborative** learning style who **trusts** peers or others will give feedback
- No one delivery mode meets learning activity preferences for this learning type than another

Implications

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 - Coaching, problem-based learning, self-discovery activity would fare well in the class. A role for cooperative leaders in the classroom (case, Skype, panel)
 - If these results generalize, what instructional techniques useful to provoke this
 - Starting a co-op
 - Board training
 - Is there a tradeoff between membership size and learning style, since this is correlated with community?
 - Collaborative trusters (positive correlation)
 - Learning correlated with spirit, trust, interaction
 - Manage with small-group discussions