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Using Sociograms to Identify Social Status in the Classroom

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Classroom climate, though difficult to define and assess, affects student learning especially in the elementary schools. Much of the current research focuses on the primary architect of classroom climate – the teacher. There is little doubt that teacher behaviors determine the overall climate of the classroom, but peer actions and reactions also significantly affect classroom climate for individual students. This article briefly highlights peer relationship's impact on student motivation and performance. An informal method, sociogram, is described for use by school psychologists in collaboration with teachers to confirm social peer status and hierarchy in the classroom. Results of a class sociogram help to identify the need for individual and/or classroom-wide intervention; and the data can also be used to assess effects of such interventions. Sociograms can supplement teacher observations to promote a positive learning environment for all students.

Classroom climate remains an interesting and intriguing concept in understanding how the art of teaching and learning occur. Although classroom climate also encompasses the physical environment of a classroom, it is the "emotional" climate that is typically of high interest. Beattie and Olley (2001) called it a phenomenon that is difficult to dissect and analyze but can be felt. Classroom climate describes the interactive emotional environment in which teachers teach and children learn, but it may also reflect subjective feelings of individual students. Alternately defined as a sense of belongingness, learning community, etc, the concept refers to the notion of an overall comfort level that children feel in class, the extent they feel connected and cared for, and whether they can be accepted as part of the community of learners. Though research on this topic is not definitive, it seems reasonable to believe that the overall emotional environment can have a significant impact on children's motivation to learn and subsequent achievement.

Much research on the topic of classroom climate focuses on the teacher, the primary architect of every aspect of the classroom, especially its climate. For example, Shapiro (1993) explains that in order to develop a classroom environment in which learning can take place it is the teacher that needs to establish a positive social climate. Additionally, she states that if the classroom climate is supportive, students will succeed. Although Shapiro does consider the role students interactions may have on the classroom climate, her primary focus is on the teacher. With most emphasis and resources directed at teacher behaviors to promote classroom climate, this article considers the role of peer interactions, which also affect the emotional learning environment for an individual child.

UNDERSTANDING THE IMPACT OF PEERS

Most teachers and parents would readily agree that peers play an important role in children's lives. Children interact with their peers on a regular basis, and they are also the individuals with whom a child forms friendships. At school, friendship promotes shared activities, both academic and non-academic. Within these friendships at school, children become aware of the broader social status hierarchy that exists within the classroom, and they know the children that are sought out and the children that are probably not invited to birthday parties. Popularity plays an important role in the social status hierarchy that exists within a school setting. Interestingly, children often hold similar opinions regard-

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ing social acceptance as their friends so, together, friends accept or reject the same students (Haselager, Hartup, van Lieshout, & Riksen-Walraven, 1998). Thus, children who have few friends or are rejected by a more popular student are at risk for high levels of rejection from many of their classmates. Children rejected by peers not only have fewer friends but increased levels of loneliness and isolation. Without friendships, the child's sense of confidence and competence is compromised, and this perception has wide-ranging consequences (Vandell & Hembree, 1994). These are issues that affect the overall comfort and engagement (i.e. learning climate) for individual children.

THE IMPACT OF FRIENDSHIPS ON THE CLIMATE FOR ACHIEVEMENT

Friends create a support group or buffer zone within which kids adjust socially and academically to school and the classroom environment. It would be helpful for teachers to be aware of the impact of friendships within their classrooms, and the role that friendships may play in students' academic motivation and achievement, each of which is an important component in contributing to the sense of belongingness that is part of classroom climate. Rejection seems to play an important role in achievement and motivation for students because students who are rejected by their peers are often found to have more problematic academic and socioemotional adjustment (Vandell & Hembree, 1994). Further, peer rejection has been linked with violations of classroom rules and has been considered to be a predictor of academic dysfunction (Hundley & Cohen, 1999). Consistent with the above findings, Yugar and Shapiro (2001) reported that students who were viewed negatively by peers were also rated by their teacher as having academic and social difficulties.

MEASURING SOCIAL STATUS

So just how do we assess social status? A method for this purpose from social psychology is called Sociometry. A useful working definition of sociometry is that it is a methodology for tracking the energy vectors of interpersonal relationships in a group. It shows the patterns of how individuals associate with each other when acting as a group toward a specified end or goal (Criswell cited in Moreno, 1960, p. 140). This technique was developed by psychiatrist Jacob Levi Moreno in 1934 to analyze interpersonal emotive relationships within a group. His methods have been used to identify informal leaders, social rankings and isolated individuals. Sociometry is a way of measuring the degree of relatedness among people. Measurements of relatedness can be useful not only in the assessment of behavior within groups, but also for interventions to bring about positive change and for determining the extent of change. Sociometry is based on the fact that people make choices in interpersonal relationships. Whenever people gather, they make choices—where to sit or stand; choices about who is perceived as friendly and who is not, who is central to the group, who is rejected, who is isolated. As Moreno says, "Choices are fundamental facts in all ongoing human relations, choices of people and choices of things. It is immaterial whether the motivations are known to the chooser or not; it is immaterial whether [the choices] are inarticulate or highly expressive, whether rational or irrational. They do not require any special justification as long as they are spontaneous and true to the self of the chooser. They are facts of the first existential order." (Moreno, as cited in Hoffman, 2001).

Jacob Levy Moreno coined the term sociometry and conducted the first long-term sociometric study from 1932-38 at the New York State Training School for Girls in Hudson, New York. As part of this study, Moreno used sociometric techniques to assign residents to various residential cottages. He found that assignments on the basis of sociometry substantially reduced the number of runaways from the facility (Moreno, as cited in Hoffman, 2001). Many more sociometric studies have been conducted since, by Moreno and others, in settings including other schools, the military, therapy groups, and

business corporations. Sociometry can be used to measure the degree to which a child is liked or disliked by peers or to assess a child's social standing within a peer group (Wu, Hart, Draper, & Olsen, 2001).

Sociometric Criteria

Social choices are always made on some basis or criterion. The criterion could be subjective, such as an intuitive feeling of liking or disliking a person on first impression. The criterion may be more objective and conscious, such as knowing that a person does or does not have certain skills needed for the group task.

When members of a group are asked to choose others in the group based on a specific criteria, everyone in the group can make choices and describe why the choices were made. From these choices a description emerges of the networks inside the group. A drawing, like a map, of those networks is called a sociogram. The data for the sociogram may also be displayed as a table or matrix of each person's choices. Such a table is called a sociomatrix. Used in the classroom, this type of social mapping would allow teachers and educators to gain perspective on how students view each other, and would be especially helpful to identify those students who are in need of additional intervention either at school or from external sources. Typically, sociometric measures are based on student and, occasionally, teacher reports. Wu et al. (2001) found a high level of reliability between teachers' and peers' perceptions thus allowing one to measure popularity and friendship from two perspectives. Yugar and Shapiro (2001) also found that students were readily able to identify students they hung around as well as to identify students with whom no one hung out with. Sociometric measures are simple to use and can be easily utilized to better grasp social status within classrooms. This information is particularly useful in classrooms where there is a high turnover of students or when new students are introduced (e.g. inclusion of special needs students), to determine how well these students are fitting in with the rest of the class.

Using a Sociogram

The use of a sociogram is very straightforward and involves asking students questions regarding their preferences in hypothetical activities with their classmates. Results are tallied to identify 4 types of children:

(a) Popular = high level of acceptance,
(b) Rejected = high level of rejection,
(c) Controversial = both acceptance and rejection, and
(d) Neglected = students name appears infrequently or not at all

The following are typical steps in conducting a sociogram:

Step 1. An adult individually meets with each student in a classroom and ask the student both positive and negative questions regarding their classmates (e.g. Name two students who you would like to sit next to in this class or Name two students who you would not pick to be your partner for P.E.). The adult can be the teacher, although a "neutral" third party such as a school psychologist (not a parent volunteer or instructional aide) is the best choice to ensure objectivity and professionalism. Alternately, this procedure can be conducted on paper (i.e. a class-wide survey) as long as every student understands what is being asked and puts down an answer.

Step 2. After the questions are given to students and results collected; on a sheet of paper, the school psychologist can simply tally the number of votes each student receives for each question (see Table 1), then tabulate the results by giving the student one point for tallies relating to positive ques-

tions and minus one point for tallies relating to negative questions. Interpretations are based on the *relative* numerical values can be interpreted to identify 4 types of children: (a) Popular = high number of points from positive question, (b) Rejected = high level of points from negative question, (c) Controversial = positive points – negative points, and (d) Neglected = students name appears infrequently or not at all.

Step 3. Once results are tabulated, the school psychologist reviews the chart with the classroom teacher to determine which student's score stands out. In Table 1, some possible social status is indicated. Note that students' status are based not only on the Total Points, but also the combination or ratio of positive (+) and negative (-) points.

Table 1.
Sample Sociogram Results

Name	*Gender*	*Acceptance Points*	*Rejection Points*	*Total Points*	*Possible Status*
E.B.	F	0	0	0	Neglected
G.B.	M	8	0	8	Popular
L.B.	F	0	3	-3	Rejected
S.C.	M	6	5	1	Controversial
R.C.	F	1	1	0	Neglected
J.E.	M	4	1	3	Popular
E.E.	M	1	11	-10	Rejected
P.H.	M	7	4	3	Controversial

Some fairly clear indications are: E.B is a *neglected* student, as the name never came up in conversation. G.B is a *popular* student, with many (+) and no (-). S.C is *controversial* because of high points in both (+) and (-). E.E. is rejected with lots of (-), and L.B. is also likely to be rejected with fewer (-) but no (+). Some other indications are considered based on the combination of scores: Even though J.E and P.H both have "3" as the Total Points, the unique combination of points suggest that their social status might be different in the classroom. The actual status of these students can best be determined through observations or teacher reports. Lastly, R.C might be neglected since the name was not mentioned very often. Again, additional observations and teacher comments would help to verify a student's social standing among his peers.

Additional Issues for Consideration

It is likely that younger children (i.e. kindergarten, first grade) tend to have more transient friendships (Meyerhoff, 1999); thus, sociogram results may not be as reliable. By second or third grade, children form more stable relationships and are cognitively able to make social comparisons and judgments (Sneed, 2002). For upper grades (i.e. middle school), sociogram can still be effective if it's made more "game-like", and the teacher/adult do not put too much emphasis when presenting the idea. Another issue concerns negative questions. Using negative questions may be uncomfortable for some, but using indirect disassociative-type negative questions (e.g. If the class had a party, who might not be invited?) seem to buffer against unintended negative consequences. Negative questions provide a clearer indication of rejection and can identify controversial students, but can be eliminated if needed.

CONCLUSION

Friendships are crucial to a child's emotional development not only because they provide social reinforcement but because they provide a buffer for handling stressors. Friendships also affect the learning climate for individual students that impact the child's overall sense of self-efficacy and ultimately classroom achievement and motivation.

This paper discussed a tool for school psychologists, in collaboration with teachers, that can be used to assess friendship status in the classroom — an aspect of classroom climate. This information could be invaluable to identify children in need of additional support and attention for in-classroom interventions or referrals outside the classroom. Reviewing the overall patterns can provide teachers with a view of the classroom's social climate for possible classroom-wide interventions by the school psychologist. Moreover, sociograms can be used to assess effectiveness of interventions (i.e. as pre and post measures). Since sociograms are quick and simple to use, it can be used regularly to assess a classroom's social climate. It is particularly useful in classrooms where there is a high turnover of students or when new students are introduced (e.g. inclusion of special needs students), to determine how well new students are fitting in. Ultimately, we believe that sociogram data can supplement teacher observations to help establish the type of classrooms that maximally supports student learning.

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