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The Development Process of Virtual Group Identity: A Virtual Educational Community Case

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ABSTRACT

As the Internet now provides an alternative forum for the social interaction of professional groups, understanding how these groups establish themselves as virtual communities, in this cyberspace environment, is crucial. The key to addressing these concerns should begin by investigating the group identity of the virtual community, since this is one of the basic building blocks of social interaction, and the means by which members define themselves, in relation to the group. Our primary findings show that, seven identity categories characterizing professional virtual group identity, affection-, alliance-, bonding-, closeness-, kinship-, bonding- and nostalgia-type conversations are salient in the different stages of the group identity development process. The leadership of the virtual group also plays a facilitating role in the group setting and participants play a part in restoring a positive sense of self or in shaping the group identity as they encounter threats in these dynamic surroundings.

Keywords

Group identity, virtual professional community, leadership, content analysis

INTRODUCTION

The new public forums now available on the Internet provide various channels to trigger the creation of prevailing virtual communities. For example, Internet-based education programs provide the means for educators to deliver their teaching materials to remote learners, while at the same time building communities. As Internet forums become an alternative choice for the experience of virtual community, there is increasing interest in understanding just how participant interaction is being addressed, in cyber space.

In the physical world, community creates and maintains a shared system and culture for group members - a common set of beliefs, customs, activities, values and communication patterns (Hunter, 1974; Cohen, 1985; Lawrence, 1994; Jones, 1995). Based on this context of sharing, group members participate in social interaction within the community. The strength of the group relies heavily on group identity, a basic building block of social interaction (Smith and Kollock, 1999), and a means by which members of the group define themselves, in relation to the group (Tajfel, 1972). Group identity indicates the boundaries that define who belongs and does not belong and establishes its own hierarchies of expertise, vocabularies and modes of discourse (Sproull and Kiesler, 1991). Members belonging to the same group identity share a common history, socially construct rules and behaviors, and enact community rituals.

In the virtual community, online interaction strips away many of the cues and signs that are part of face-to-face interaction. Therefore, the trust established on the basis of discussion among a group of strangers, represents a group identity within these virtual communities. Belief in a common goal of the virtual community can be a group identity, as can the sharing of others' ideas, emotions and values. As stated in Kramer, et al. (1984) and DeSanctis (1998), researches have also indicated that a group identity is essential to the sustainability of the virtual group as a strong identity facilitates the active participation of members in virtual group discussions.

The concept of group identity can be described as the "individual's knowledge that he/she belongs to certain organizational groups together with some emotional and value significance to him/her of this group membership" (Smith and Kollock, 1999). The Social Identity Theory suggests that people's connections to organizations are motivated by their desire to obtain information relevant to the development and maintenance of the self (Tajfel, 1972). Essentially, people use membership in groups to help construct their group identity. Combined with idiosyncratic personal information, a group identity can help create a person's self-concept. The desire to have a favorable group identity is an important motive for following the rules, helping the group and remaining as a member of the group. In particular, group identity is concerned with shaping motivation to voluntarily engage in cooperative behavior. This voluntary behavior is linked in important ways to a person's desire to receive feedback from the group and to create, maintain and enhance a favorable identity for the group. Thus, the

key to understanding how cooperative behavior developed and maintained is to understand how group identity is developed, shaped and maintained within the group.

In addition, the group leader plays a facilitating role in establishing the identity of a group; the behavior patterns of the group leader determine the rules guiding the group members' conduct during social interaction and provide means and opportunities for the members to engage in both professional and social interaction. Leaders can also help members feel comfortable within the group environment by fostering trust, being aware of the strengths and weaknesses within the group and taking steps to keep both members and the group on the right track.

In this research, the important issues, related to group identity within the virtual community, are addressed from these perspectives. These issues include: 'how is group identity created and maintained in a professional virtual community?'; 'what are the characteristics of leadership in a virtual community?'; and 'what does group identity mean for members in regard to sharing, interacting and personal identity?'. In this study, we provide a better understanding of social interaction, on the Internet, for groups considering management of a professional community, through information technologies.

LITERATURE REVIEW

Virtual Community

Computer mediated communication systems (CMCs), are socio-technical systems that support and enhance the communication-related activities of group members engaged in computer-supported cooperative works. It is a temporary, culturally diverse, geographically dispersed and electronically communicating work group (Kristof, et al. 1995; Rheingold, 1993). The studies indicate that the members of virtual community recognize their unique group identity, defining who belongs and who does not, establish their own hierarchies of expertise, their own vocabularies and modes of discourse (Marvin, 1995; Sproull and Kiesler, 1991). Furthermore, they share a common history and common values, which can provide an identity for their group boundaries and knowledge of how to behave and anticipate the behavior of others, as well as identifying who does not belong to, or who is new, to the community (Smith and McLaughlin, 1997).

In cyber space, however, the members interact through asynchronous technology and computer media, criticized as "lean" and unable to transmit the full range of verbal and non-verbal cues necessary, to support strong interpersonal ties. Communicating through text makes virtual groups low in "social presence", given the absence of seemingly necessary social context cues, like eye contact. A main concern is that a virtual group is deficient, when compared to a face-to-face group, in social context cues, such as facial expression, posture, dress, social status indicators and the human voice (Sproull and Kiesler, 1991). True emotional expression is not possible in virtual groups, but when computer networks are used to coordinate a professional group it has a greater potential for growth than isolated local groups. With these limitations, the members of a virtual community can easily withdraw from group discussion. The study of group identity is, therefore, extremely important in encouraging an individual's enthusiasm to participate in group discussion in cyber space.

Group Identity

Group identity defines who we are in relation to the larger social system to which we belong; it is affected by organizational culture and also by other meaning-making systems (Gioia & Thomas, 1996). A strong group identity, shared by community members, increases the flow of information among all members, the availability of support, the commitment to group goals, the cooperation among members and satisfaction with group efforts (Hatch & Schultz, 1997; Worchel, 1998; Deschamps, et al., 1998). Previous studies in group identity have shown that group members regard it as central to the existence of the group, making the group distinct from others, and is perceived by the members as an enduring and continuing feature, linking the present with the past. For instance, Social Identity Theory (SIT) predicts persons with a common group interest in their individual decisions, treat each other more cooperatively, help each other more and so on (Deschamps, et al., 1998; Worchel, 1998; Tajfel, 1972). Hatch and Schultz (1997) proposed specific group identity as a vehicle for the corporate culture. Rafaeli and Sudweeks (1997) indicated that strong identity makes CMC groups stick together. Herring (1999) and Liu (1999) evaluated computer-mediated interaction and found that group identity is an effective mechanism for group production. With a group identity, individuals enjoyed the benefits from community membership by experiencing a greater sense of well being and happiness, by having a larger and more willing set of others to call on for support in times of need (Deschamps, et al., 1998; Gioia and Thomas, 1996).

Once a group has been formed, its initial focus is to establish its group identity. Jarvenpaa, et al. (1998) indicated that during identification establishment, leadership is often central to the virtual group. Kayworth and Leidner (2001-2002) proposed that highly effective virtual group leaders act in a mentoring role and exhibit a high degree of understanding toward other team members. In the meantime, effective leaders were extremely resourceful at providing regular, detailed, and prompt

communication and articulating role responsibilities among the virtual group members. Jarvenpaa, et al. (1998), suggested that the leadership role is not static but rather rotates among members, depending on the task to be accomplished. Leaders' efforts must reach back in history to establish the legitimacy of the group, recognize previous founders, and locate the marks that will distinguish the group and identify their unique group identity. These studies suggest that certain leadership roles may be particularly important in a group identification development process.

However, virtual groups tend to be less tightly bound together than in real life face-to-face groups. Under these circumstances, discussion participants in cyber space can be easily thrown into confusion. Therefore, the cyber space leadership role has become more important in coordinating group members, maintaining group identity, and developing the community into a reliable and professional group.

Sociological Discourse of the Teacher Role

During the 1990s in Taiwan, educational policies were dramatically changed, implementing such things as constructivism for teaching mathematics, English as a second language in primary education and extending primary education from 6 to 9 years etc. These policies raised much debate among teachers, educators and parents. Specifically, the role of the teacher continues to change, because new policies can make certain teaching resources obsolete. The teacher is seen in different social contexts, from differing points of view: images, such as employee, technical expert, intellectual, agent of ideological apparatus of the state, intellectual laborer, cultural worker or care provider have been proposed by the public, educational institutes, colleagues, students and parents (Weems, 2003; Wheeler, 2001; Murray, 2000; Gradner, 1995). Teachers are concerned that these policies may question, and that the authorities may not consider, their professional and traditional identities, supported by teachers and many other specialized professional educator groups.

Teachers often find themselves in a struggle of role-playing to fulfill the expectations of society in their dynamic surroundings (Gradner, 1995; Ben-peretz, 2001). Looking for control over uncertainty motivates the teachers in searching for professional identity (Weems, 2003). They draw their self-image as teacher and base their identity upon the educational policy (Gradner, 1995; Murrell, Jr., 2001). Thus, educational policy becomes a significant factor in a teacher's professional identity, influencing the context of teacher. This change in context systematically evolves through discourse, and discussion of adaptive roles, disparate visions of educational professionalism and teacher identity.

The introduction of information technology into the professional teaching community has engendered an entirely new dimension in information sharing and the creation of common values. An example is SCTNet, the biggest teachers' virtual community in Taiwan. The participants of SCTNet access the same network resources and exchange shared information. Through the SCTNet platform forum, isolated teacher and educator groups can reflect on their professional identity in regard to new education policies. In other words, the virtual professional community can, in a general way, help retain relationships, increase motivation and deepen mutual understanding. The virtual professional community can also be used to promote collaborative learning, problem-solving and a sense of identity.

METHODOLOGY

Sample

We chose SCTNet (<http://sctnet.edu.tw>), the biggest cyberspace teacher community in Taiwan, as our research sample. The SCTNet was developed in 1999 as a platform to share teaching information on the Internet. It is similar in many ways to a conferencing system, often referred to as a BBS, and can be compared to e-mail distribution lists. With the aid of the government, approximately 60,000 members, most of whom are teachers, joined SCTNet over a period of four years.

The members of SCTNet retain their relationships through online chat rooms and the BBS. Policies, posted and discussed by the members, include subject such as constructivism for mathematic teaching. The goal of constructivism, in teaching mathematics, is to nurture and sustain children's thinking ability and successfully encourages their approach to mathematics. This policy has been in place for the past six years. During these years, children's progress in mathematical computing ability has not met with expectations, but has obviously regressed. This has triggered much debate among teachers, educational professionals, the education authority, parents and other affected participants. This debate also takes place on the SCTNet. The discussion participants on the SCTNet define the role that educators should play, their professional identity boundaries, the basic value of education and the traditional identity of the teacher community. They also discuss the alternatives available to primary school teachers facing these education policy reforms, and at the same time defend their professional group identity as they sense the change in their environment.

In order to understand how group identity is established through social interaction in the virtual community, and any potential threats as this identity is being established, more research is required. In this research, we have used the discourse surrounding constructivism in the teaching of mathematics as the analytical data, since it is one of the most important discussion issues on the SCTNet.

Procedure

The content analysis technique has been used in studying how the verbal categories of conversation emerge, travel, and gain acceptance in a set of interacting groups (Berelson, 1952; Krippendorff, 1980; Wheelan, 1994). For research purposes, content analysis can reflect the cultural patterns of groups or reveal the focus of individual, group, institutional, or societal attention (Weber, 1985).

Several basic preliminary steps must be carried out in the establishment of a coding scheme before content analysis can be performed. The first analysis unit used in this research is the theme from the discourse, or a unit of text “having no more than one each of the perceiver, the perceived, or the action” (Berelson, 1952). Second, we adopt the categories of group identity that are proposed by Balmer etc. (1998) since they have been applied, many times, to small group productivity and effectiveness research (Harrison, et al., 1997). Finally, the reliability of the human coders is assessed, to ensure our analysis is rigorous. Thus, content analysis utilizes a set of procedures to make valid inferences from text, so high reproducibility/reliability is a minimum standard in content analysis.

The group identity categories proposed by Balmer etc. (1998) are: (1) Affection: the individual shows an affinity for the original culture, which reflects the values of the organization’s founder; (2) Alliance: this is based on the principle that the group needs the individual and vice versa; (3) Attachment: participants within their group have a loose affinity for the subsidiary; (4) Bonding: the members of the group have an affinity with the wider profession; (5) Closeness: the individual has a particular affinity for his local culture; (6) Kinship: participants regard themselves as members of the family in their groups; (7) Nostalgia: participants show an affinity for the original culture in another group, which reflects the old group identity.

In this study, two coders were employed in the analysis process. They were trained in order to ensure they had the skill and reliability in placing units into the proper Group Identity Category (Strauss & Corbin, 1998; Weber, 1985; Krippendorff, 1980; Berelson, 1952). Training data was collected from other postings on the SCTNet that were professional virtual communities, to serve as our research sample. A total of 180 postings (group discussion discourses) were randomly chosen and coded by two coders as training practice. After six training rounds, the reliability index of official coding reached 80.1 percent.

RESULTS AND DISCUSSION

There were 10 discussion topics that related to constructivism for the mathematics teaching post during the time frame from Feb. 2001 to Oct. 2002. The sample, consisting of 659 sentences posted by 46 members, was used for coding and analysis purposes (the details are shown in Table1).

Topics	Number of Participants	Number of Postings	Topics	Number of Participants	Number of Postings
Topic1	5	5	Topic6	5	10
Topic2	4	10	Topic7	6	20
Topic3	9	15	Topic8	10	19
Topic4	8	12	Topic9	16	40
Topic5	4	14	Topic10	13	35
Summary	80	180			

Table 1. Number of Participants and Postings on the SCTNet

Figure1 shows the patterns of group identity categories across the time during which the event occurred. The x-axis represents the time sequence and the y-axis represents the frequency percentage among group identity categories. The percentage of alliance statements peaked at the beginning and in the middle (figure 1A). Alliance increased (figure 1B) and attachment and bonding characterized the beginning and the end (figure 1C, 1D). Kinship patterns increased across the time span (figure 1F), but there were few closeness and nostalgia statements, when compared to other categories (figure 1E, 1G).

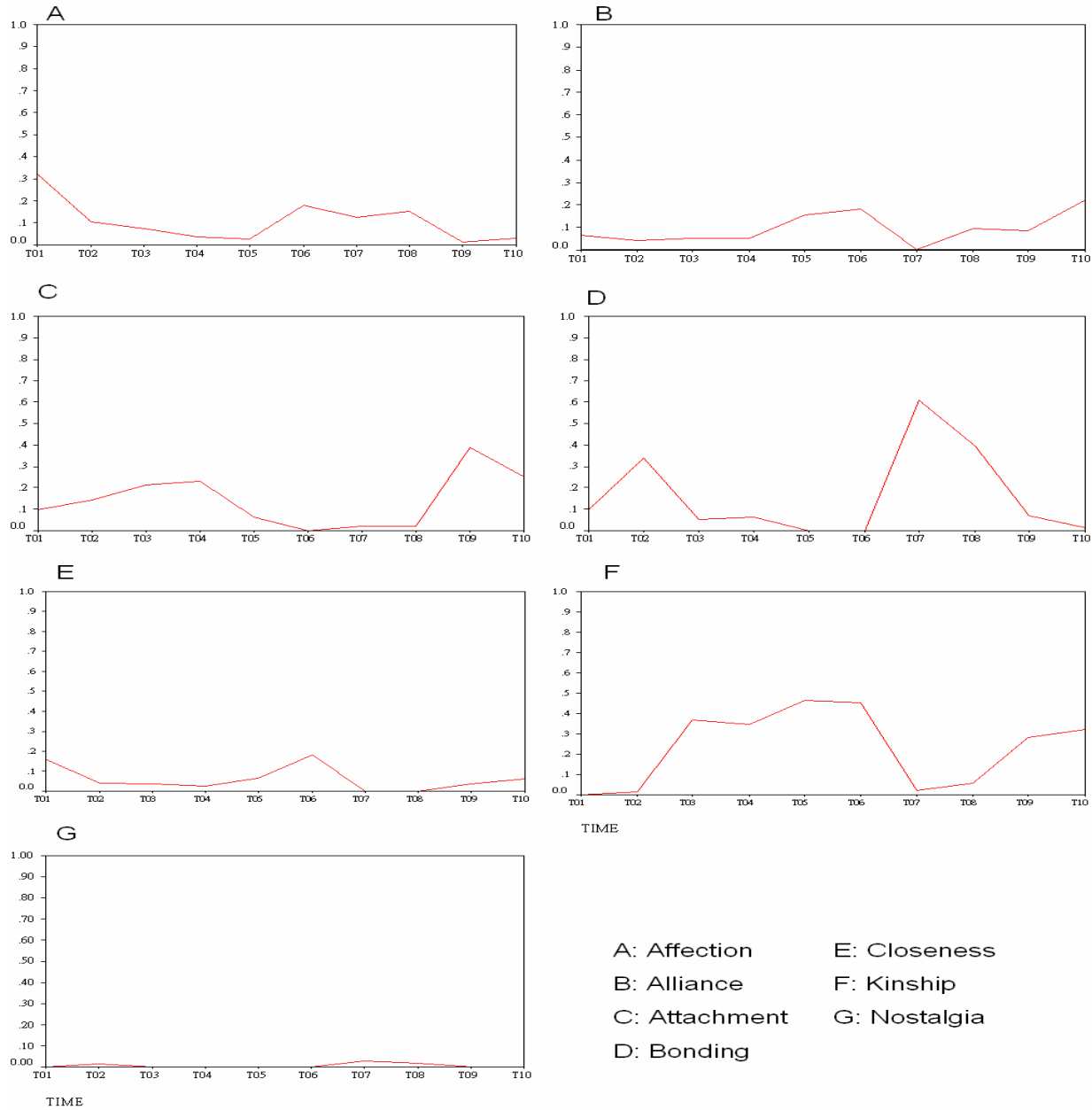


Figure 1. Patterns of Group Identity Categories

In figure2, the most frequently used personal pronoun in the discourses was “I”; the second most frequent was “We” and “You”; the third person was used the least. This indicates that members of the SCTNet show both a strong sense of self and a group identity. In the discussions surrounding the teaching of constructivism in mathematics, group members used “We” to express their own professional teachers’ group opinions and used “I” to present their personal beliefs towards teaching. Thus, members were looking for information to compare their own group with others, and in the process, created their new group identity as they faced a new education policy. This shows that the SCTNet’s participants struggled against changes to reform their group identity, their membership, the boundaries of their group and what the group’s identity and norms stand for, as they were questioned by outsiders.

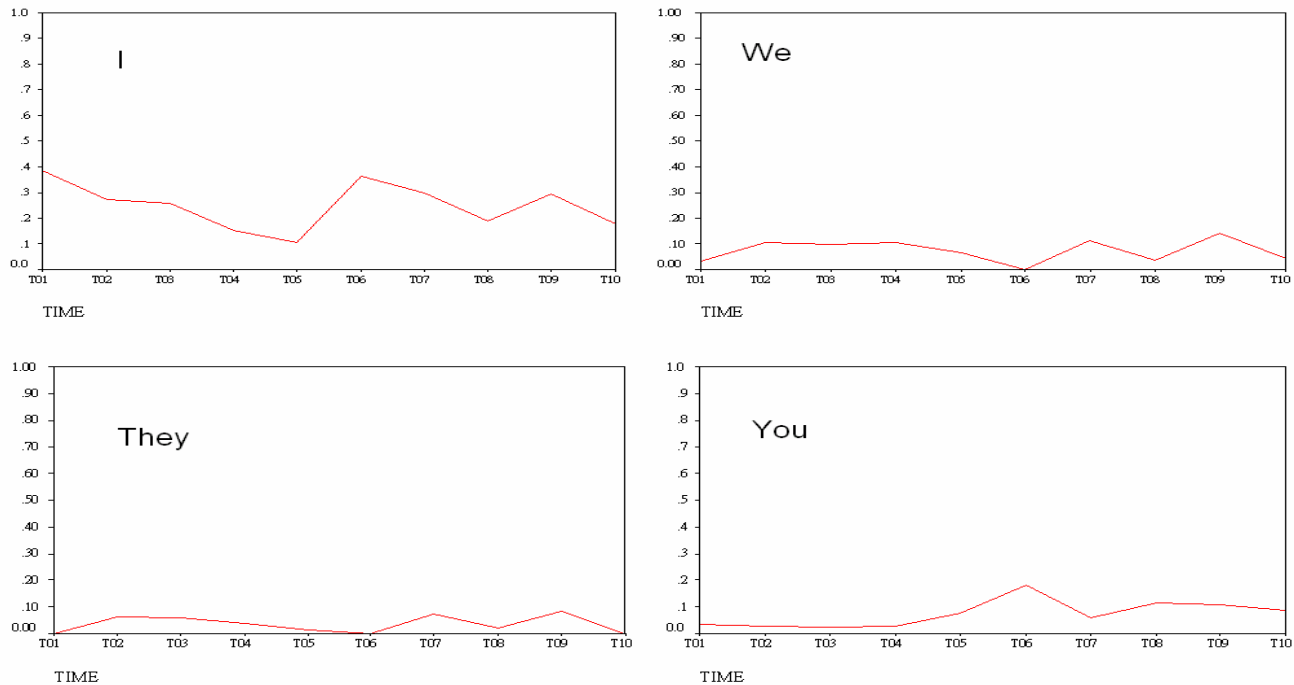


Figure 2. Personal Pronoun Patterns

Establishing and Sharing Identity in a Professional Society

During the group identity development stage, affection-type statements prevailed as the members were encouraged to express their prospects and participants were assisted in rethinking their professional group identity as the educational policies changed. Later on, there was an increasing frequency of alliance and bonding-type identities displayed, as participants became connected through the coordination of their energy, actions and practices. These alliance-type verbal statements also made the members open their minds and listen to various opinions. In addition, SCTNet members frequently used bonding-type verbal conversations while focusing on professional discussions. Attachment-type statements, however, revealed the fact that some of the members perceived individual and group identities as separate while facing uncertainties in the beginning stages.

As group identity continued to develop, alliance, closeness and kinship identity type statements increased. This phenomenon illustrated that the development of the professional virtual community was unfolding and the perception of the new group identity was becoming stronger. In addition, alliance-type statements expanded the scope of the individuals affecting the SCTNet professional community, when they felt warmth and support from others in the group.

Finally, attachment, bonding and nostalgia-type identity statements increased. Attachment-type statements showed that, during the group identity development process, individuals were also focusing on their personal characteristics and needs, which illustrated that group members were assessing their contributions to and rewards from the other group members. The SCTNet participants demanded equity, based on their contributions to the group, rather than simple group membership. The bonding pattern shows that the members felt a strong professional identity and recognized themselves as members of this professional education group. Thus, some of the SCTNet members began participating in the group discussion. These members amplified the ramifications of individual action by coordinating multiple localities, competencies and viewpoints. Moreover, in order to clarify their new identity, they used nostalgia type conversations to compare previous definitions and so redefined their group boundaries. Thus, the group identity of this teachers' virtual community was developed through the interplay of producing, adopting and acquiring a language created by the members. In other words, through engaging in this discussion in cyber space, the context in which participants constructed and experienced group identity was shaped and the mutual transformation of the group, the practices and the people involved, took place.

Potential Threats to the Establishment of Group Identity

Table 2 shows the correlation between group identity categories and personal pronouns. Four of the correlations are shown as significant, at the 0.05 level (2-tailed). These correlations are between “you” and “affection”, “you” and “alliance”, “they” and “nostalgia” and “I” and “bonding.”

First, the relationship between “you” and “affection” presents a negative correlation. This indicates that the more frequently an individual shows an affinity for the original culture, reflecting the values of the organization’s founder, the less (s)he will use the personal pronoun “you” in the discourse. SCTNet members used “you” to classify those peers who were located in different virtual groups from themselves. When these members’ identities were separated, it was found that they seldom had intimate connections or shared common values. In other words, “you” meant that these persons did not belong to the same group and had few opportunities to ignore their differences. Thus, the modifying identity of a teacher depended on acknowledging several aspects of uncertainty within teaching: possible conflicts between the commitment to teach for understanding and other educational commitments; the inherently incomplete nature of the knowledge with which teachers work; and teachers’ commitment to be responsive to the changing world. In our data, an individual used “you” frequently when (s)he opposed the value of constructivism in teaching and questioned the value of others, while preexisting perceptions of teachers’ professional identities in the virtual community were shaken upon the education policy. Under this situation, participants were thrown into confusion, and had to distinguish “you” and “we” before they could redefine their group identity.

	You	They	I	We
Affection	-.080*	-.037	.026	.015
Alliance	.128**	-.039	.001	-.016
Attachment	-.047	-.006	.039	.068
Bonding	-.051	.031	.084*	.011
Closeness	-.053	.005	-.067	.043
Kinship	.070	-.039	.044	-.066
Nostalgia	.010	-.190**	.016	.070

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 2. Correlation between Group Identity Categories and Personal Pronouns

Second, the relationship between “you” and “alliance” showed a positive correlation. This indicated that the more an individual required other peers to devote their efforts to the group, the more (s)he used the personal pronoun “you” during discourse. Alliance persuaded group members to perceive the self and others not as individuals, with a range of idiosyncratic characteristics and behaviors, but as representatives of special groups or wider professional categories. In fact, a feature of virtual community frequently referred to, is the ease with which it brings people with similar interests together, through membership in specific professional discussions. Even when an individual in the SCTNet perceived their group identity as being changed, (s)he still tried to redefine the group identity which was shaped under the new educational policy.

Third, the relationship between “they” and “nostalgia” presented a negative correlation. This indicated that the more often an individual showed an affinity for traditional teaching roles, the less (s)he used the personal pronoun “they” in their discourse. This group member’s views were consistent with the old group identity when (s)he reminisced about the traditional teaching culture. A modifying group identity occurred for the teachers when there was disparity between the individual’s opinion and others regarding the identities of the old and new groups. For example, when the constructivism teaching method was adopted as a new teaching policy and criticized by the member of SCTNet, members often used “they” as the personal pronoun to distinguish his/her new group identity from others. When negative images of teacher’s role in the past were discussed, the SCTNet member often used “they” to separate the new teacher identity from the old.

Fourth, the relationship between “I” and “bonding” showed a positive correlation. The SCTNet participant used “I” and “bonding” to redefine his or her identity and show affinity with the wider profession. The movement to professionalize teaching is often associated with the traditional identity of professionalism. This core identity of teacher-as-professional not only directs teachers’ attention to teaching skills, but also assists teachers in defining clear group boundaries. In order to highlight professional identity, teachers have emphasized increasing expert knowledge and exchanging experiential pre-

service and in-service teaching techniques. Thus, SCTNet members adopted “bonding” and “I” concurrently to select a suitable identity and reconfirm their professional identity even as they faced new educational policies.

Consequently, when SCTNet participants faced a new education policy, some tried to modify the new group identity, some separated “you” and “we” and some relied on their professional identity. In the virtual professional community, members' perception of their group identity may have a direct effect on teaching content, while they are facing group identity threats. SCTNet participants reflected separate identities relating to the disparity or inconsistency between their perceptions of the group identity, and a dysfunctional group identity based on constructivism in the teaching of mathematics, which characterized their professional role.

Leadership in the Professional Society

In analyzing the discourses, we found that three of the 46 members were very active participants and showed leaderships in their professional society. For convenience, we named them Members A, B, and C. Table 3 shows, in detail, the types of communications these three members presented during their discourse. Among the 10 discussion topics, Member A, B, and C participated in five, four and seven topics, respectively. In addition, with 659 total sentences posted, there were 145, 132 and 80 posted by Members A, B, and C, respectively. These numbers are far above the average of 14.3 sentences posted per member (659 sentences divided by 46 members). This showed that these three members were extremely active on the SCTNet, demonstrating leadership qualities by their affinity for the original culture of constructivism in teaching mathematics. They also presented strong professional identities by sharing knowledge of teaching techniques with their community peers; as well, they used the words “I” and “We” more often than “You” or “They” in their discussions. They showed, by their actions, that they belonged to the SCTNet and had significant emotional attachment to the group and valued membership in the group.

		Member A	Member B	Member C
Number of sentences posted		145	132	80
Personal Pronoun	I	27	14	22
	We	17	16	9
	They	8	1	6
	You	11	5	6
Group Identity	Affection	12	10	23
	Alliance	1	12	5
	Attachment	4	7	9
	Bonding	73	25	30
	Closeness	3	0	6
	Kinship	4	0	7
	Nostalgia	9	1	1

Table 3. Leadership in the Professional Society

These active participants were the leaders of the SCTNet, implementing a communication where group members were able to check their own performance and receive feedback quickly. For instance, these leaders proposed that the members engage in social introductions, which allowed them to get to know each other during the difficult start-up process. As the connections became more intimate, the members gained access to the support and continuity underpinning community, moving the individual from a position of isolation to membership in a known community. Furthermore, leaders discussed their ideas and questions in a very supportive and amicable fashion, which in turn reinforced the group's collective commitment and good will. Instead of repressing group debate, the leaders always kept their minds open and listened. Through the expression of attention, care and understanding to the members of the group, the passion and excitement felt by these virtual group leaders became infectious. While these leaders focused on sharing information, encouraging members to become involved in the group, members successfully forged a group identity that would nurture and sustain their interactions over time. Leadership of the virtual community is, therefore, not only critical to the establishment of group identity, but also strengthens the virtual community itself.

CONCLUSION

In this study, we have explored the identity development process of a virtual teachers' community under Taiwan indigenous cultural context. There are three primary findings: first, seven identity categories characterized the professional group identification process. In the beginning, affection, alliance and bonding conversations helped participants become connected. Attachment statements revealed, however, that the group identity was weak in this uncertain environment. During successive stages, alliance, closeness and kinship characterized the identity development process. In the final stage, bonding conversations strengthened professional identity and nostalgia conversations were used to compare previous definitions and redefine group boundaries. Second, when SCTNet participants faced a new education policy, some tried to modify the new group identity, some separated "you" and "we", while others depended on their professional identity. When membership in one group identity was blurred or an identity threat, the member could restore a positive sense of self by selecting other unthreatened or untarnished categories. Third, we found that the role of leadership was not static but rather a dynamic one. Active leadership was found to be extremely effective in providing regular and detailed information, prompting communication and articulating role responsibilities among the virtual community members. Thus, certain leadership roles may facilitate the shaping of the group identity in virtual settings.

Finally, several contributions were made in this research. First, this study demonstrates the importance of group identity as a key factor in the formation of a professional virtual community. Second, our results illustrate that leadership plays a critical role in the strengthening of community life in a virtual teachers' community. Third, in managing a virtual professional community, our study shows ways of establishing an identity that can be shared with the professional community. In implementing a CMC system, it provides insight into appropriate technological design and facilitates mutual understanding for members of virtual professional communities.

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Note: Partial references are eliminated due to the word count limitation. The completed references can be provided upon request.