

# From Pixels to Personalities: Identity Formation in Virtual Communities Through Multimodal Communication

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**Abstract:** Communities of Practice (CoPs) are an important thread in the social fabric of knowledge sharing (Wenger, 2004). Members of CoPs who share a common passion and interact regularly in a bid to improve their discipline and expertise contribute thus to the cohort of knowledge and practice. Recently, due to the transformation of technology this interaction is no longer limited to the physical world but more than often it takes place using communication channels thus breaking the boundaries of time and space. This has led to the rise of the term Virtual Communities of Practice (VCoPs). It is recognised by previous research that it is the informal communication that helps in building and sustenance of a CoP which is more so in the VCoP albeit the hurdles. The members of CoP negotiate their identities on the basis of the communication and move from peripheral membership to the core of the CoP. Similar movement and interactions are also found in VCoP. Multimodal communication forms an integral part of communication. This paper explores the usage of multimodal communication especially emojis, GIFs along with photographs in the formation and negotiation of identities of the members of the VCoP. This study uses discourse analysis to analyse the year-long communication within two VCoPs composed of academicians across India. The findings of the study indicate that use of such multimodal elements of communication contribute towards development of trust needed for knowledge sharing and sustenance of a VCoP and perception of identities within the VCoP.

**Keywords:** Virtual Communities of Practice , Computer mediated communication, Multimodal communication -Emojis, emoticons and GIF

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## 1. Introduction

Communities of Practice (CoPs) have always been existent but the study of these as part of organisational structure began in the 1980s. CoPs are the social structures that function on the principle of knowledge management thus becoming important elements of “social fabric of knowledge” (Wenger, 2004). Members of these CoPs share a passion for a body of knowledge (domain) and interact frequently (community) in order to make improvements (Practice). It should be noted that it does not mean that the members will necessarily work together in the same space. Knowledge sharing in a CoP leads to situated learning (Lave & Wenger, 1990) which always takes place in context -authentic situations and settings. Organisations, both corporate and academic have found CoPs useful yet challenging to sustain.

Academicians often thrive on the conferences and other academic events in order to look out for furthering of knowledge, find collaborators and develop a sense of community revolving around certain practices. With technological advances, knowledge sharing, opportunities for collaboration have gone beyond the conferences and other academic meetings, breaking boundaries of time and space. Situated learning, an extension of the social learning theory (Vygostsky, 1978) along with Connectivism (Siemens & Downes, 2005) form the basis in case of VCoP since the formation of a VCoP takes place by identifying common “domain” over a network, usually connected in the virtual world. Crampton (2001) emphasises that the requisites for effective communication in order to cultivate mutual knowledge and comprehension become more pressing in case of VCoPs in absence of non-verbal communication.

Communication in the virtual world has seen major transformation from being textual, graphic, pictorial to audio-visual, gestural with stickers, emoticons and emojis to the latest- memes and animated GIFs. These multimodal elements are seen as compensations to non-verbal communication in technology mediated communication and form an integral part of interpersonal communication today.

This paper studies the usage of these elements and its impact on the functioning of the VCoPs using two case studies. These two VCoPs formed of academicians across India (Community), belonging to different subject domains but having a common passion of learner centric education (domain) and using “Learner Centric MOOC model” for the same (Practice). These groups operate over WhatsApp which allows multimodality for communication. This paper analyses the use of emojis, emoticons, gifs, images in the formation of identities, engagement and participation on the movement of members from periphery towards the core.

## 2. Related Work

### 2.1 Virtual Communities of Practice: Communication, Structure and Identities

Through adult life, learning takes place through learning at work (Boud & Middleton, 2003). This learning is also known as situated learning of which communication is a major key. Boud (1999) argues that predominant way of situated learning is through informal communication with peers at work. This informal communication leads the way to share knowledge and improve their discipline and establishes communities of practice. The organisational, social learning theories point out towards communication, especially informal communication as a key element in the functioning and sustenance of all CoPs.

It is through communication that identities are formed, relationships within the CoPs are established, active participation in practices of communities and learning takes place, knowledge is shared and artefacts are created. Social participation in this context involves active participation and building identities within and in relation to these communities. Wenger (1998) has explicitly written about the deep connection between the identities and the practice within the CoPs, highlighting the point that formation of communities of practice involves negotiation of identities as well as the distinction of these identities from self-image. It is through this engagement in the practices and the constant negotiation of identities that the roles get reified within the CoP. There are no 'appointed' people in a CoP or a VCoP and hence they do not come with reification markers. It is through engagement that these reifications and the identities are built up in an ongoing process. A new member usually is at the legitimate periphery stage where their situated learning takes place. Through their engagement and practice, they slowly progress moving in towards the core of the CoP learning the community discipline, aligning their values and behaviours to the norms of the CoP in the process. This movement is not automatic and members may experience hurdles in the movement

Understanding of new members about shared knowledge and the vision of the CoP is constantly negotiated through interpretation of repertoire of language, symbols and genres involved in the communication. In a CoP, members are not merely judged by their knowledge but by their demonstrated ability of reading the local context and acting in ways thereupon that is valued by members of CoP (Contu & Willmott, 2003). Thus, the emphasis is on contextual understanding more than technical knowledge. In recent times, with the development of Web 2.0 technologies, the formation of CoPs is not limited to one organisation or the physical world alone. The term "virtual communities of practice" (VCoPs) has been recognised in the recent literature (Dube et al, 2005; Kimble & Hildreth, 2005) where ICT tools are the main channels used for communication and knowledge sharing within the VCoP.

The language of communication used through ICT is characterised by multimodality that includes shorter text to emojis and GIFs which are gesture and emotive expressions. The communication has also become horizontal with the producers also becoming consumers of content and vice-versa. This has set the tone for collaboration and active participation through blogs, comments etc.

### 2.2 Nonverbal Communication in a VCoP

There has been considerable research on the various aspects of use of emojis, emoticons since their popular use. Research has been done on the analysis of feelings conveyed by the emoji used (Abdellaoui & Zrigui, 2018), frequency of use of emojis by older adults (Briede-Westermeyer & Pérez-Villalobos, 2019) and association of emojis with informal texts (Maíz-Arévalo, 2016). Studies have also been conducted on grammatical tags of emojis (González-Gallardo et al, 2016) as well as for the development of text summaries (Lloret et al, 2010). Rodriguez et al (2018) puts forth seven dimensions of usage of emojis and emoticons which are a) aesthetic appeal, b) familiarity, c) visual complexity, d) clarity, e) reflection of positive or negative emotion, f) emotion, and g) the meaning attributed to it.

The distinctive point is the usage of ICT mediated communication (earlier known as Technology Mediated Communication- TMC) that operates differently for each user. This is amplified within the VCoP since every member experiences the VCoP in a different manner, their "realities" being different and hence their interactions within the VCoP would be different as compared to a CoP. This can impact multiple things like trust, sense of belonging as well as extent of comprehension upon which knowledge sharing is based (Kimble, & Wright, 2000; Pan & Leidner, 2003).

CoPs including VCoPs involve informal and formal processes that contribute to knowledge creation and sharing. Multiple activities have been recognised as processes depending upon the structure and the typology of the (V)CoP ranging from mentoring to team work and collaborative activities. In a VCoP, these activities find ground

for action, through various tele-communication channels, mostly via the internet in the current era. These could be through open as well as closed social media groups like Facebook, Twitter etc or communication channels like WhatsApp, Telegram etc taking a precedence over email and telephonic conversations. These 'conversations' that happen synchronously as well as asynchronously in a VCoP lack in the non-verbal communication of the physical world. Research shows that this limits the formation as well as perception of identities and affects engagement in a VCoP (Pan & Leidner, 2003, Dube et al, 2005).

Nevertheless, use of multimodal elements of communications in the VCoP attempt to overcome the hurdles of non-verbal communication. These include emojis, emoticons, gifs, images, audio messages, as artefacts that try to imitate the non-verbal communication.

### **3. The Study**

There have been various studies on Communication in CoPs and lately VCoPs but very little research was found to exist on academic VCoP and the role of multimodal communication therein. This study is an empirical, exploratory study of the communication of two VCoPs which comprise academicians across India from various domains and the engagement and movement of members in each of them.

#### **3.1 Research Questions**

- Does multimodal communication enhance engagement of members in VCoPs?
- Does the use of emojis, emoticons, gifs and memes contribute to the identity in VCoPs?
- Does multimodal communication enhance ties of members in the VCoP leading to trust and thereby lead to more knowledge sharing within the VCoP?

#### **3.2 Research Methods**

The research uses mainly qualitative methods of discourse analysis for the primary data which is the communication on the communication channel used by both the VCoPs under consideration. Notations of observations and discussions with others informally rather than a formal interview were recorded. This helped in further analysis of the identities of VCoPs. The researcher is a member of both the VCoPs and hence this qualitative research involves characteristics of participatory ethnographic research .

The text and the multimodal messages were separately classified for each type and analyzed thematically and for the sentiment analysis. The analysis was done manually and seen in context of the text. The purpose of this exercise was to explore the usage of multimodal communication along with texts for engagement and interpersonal relations

#### **3.3 Research Sample**

The sample for this empirical, explorative study comprised two VCoPs formed over WhatsApp. The first VCoP was formed with 24 members chosen on the basis of their involvement in a MOOC Program about Learner Centric MOOC model by the instructor of this MOOC. Out of these 24, 10 members identify themselves as male and 14 female members. The age group of the members varied from 30 years to 50 years of age. The VCoP was formed for the purpose of tasks related to another MOOC program by the same instructor. On the basis of self-initiation from the responses towards tasks, the instructor created another VCoP of 8 members out of these 24 members which showed movement from periphery towards the core. This VCoP1 of 8 members has 3 male and 5 female members. This movement was discovered in a period of 2 months and the establishment of the 2nd VCoP was at an interval of 2 months from that of the first.

### **4. Data Collection and Analysis**

The primary data comprised all the messages -text and multimedia/new media from the WhatsApp Chat over the period of 14 months and 12 months respectively for the VCoP1 and VCoP2 respectively. This data was collected during the year 2021, amidst COVID19 which made WhatsApp groups and other such channels, a necessity.

The exported chat including the multimodal elements and artefacts was subject to: a) for quantitative analysis: WhatsApp chat analyser b) for qualitative analysis: discourse analysis mainly for the non-verbal communication, structure and conversational codes. This data was further coded and subjected to thematic analysis for the identification of patterns and meanings as part of the discourse analysis.

## Ethical Considerations

The communication on WhatsApp groups for both the VCoPs are used only for the purpose of this research. The members of the VCoP are aware of this use. Due care has been taken regarding anonymisation to safeguard the privacy of the members of the VCoP. The raw data is secured with a password protected file.

## 5. Findings and Discussion

Analysis was done on two aspects-the structure and its negotiations of the identities and the usage of multimodal elements. Discourse analysis attempts to provide an insight on how the usage of multimodal elements in the VCoPs affect the interpersonal communication and the negotiation of identities of members within the VCoP.

### 5.1 Structure and Organisation of the VCoPs of the Study

The structure in both VCoPs was flat and there was openness in communication in both the VCoPs. The members of both the VCoPs belonged to multiple institutions and hence the boundary crossing was high in both the VCoPs. When the boundary crossing is high, it is found that it is difficult to build adequate trust leading to sharing of knowledge (Wenger et al, 2002). The means of ICT have helped in overcoming the gap of time and space and unlike earlier studies that showed physical distance affecting psychological closeness (Wenger et al, 2002), latest research shows that social penetration (Altman & Taylor, 1973) is not particularly dependent upon on physical distance and the higher the self-disclosure in communication, greater are the chances of psychological closeness (Debrot. A, et al ,2017) .

These were closed membership VCoP with members having moderate ICT skills. Both the VCoPs were culturally diverse, since members belonged to regions as well as different professional domains ranging from Medicine to Technology and pure Sciences to Humanities. This brought in rich and diverse perspectives and experiences, it would also mean that the messages would be interpreted with their own cultural filters which are said to be causes for misinterpretations and therefore some hurdles in the communications (Wenger, 2002), especially in a VCoP.

### 5.2 Analysis of Usage of Multi Modal Elements

On the outset the number of multimodal elements including photographs, emojis and GIFs shared during communication in VCoP1 were lesser than in VCoP2. The general usage of types of messages is shown in fig1. Note: The analyser considers emoji as media.

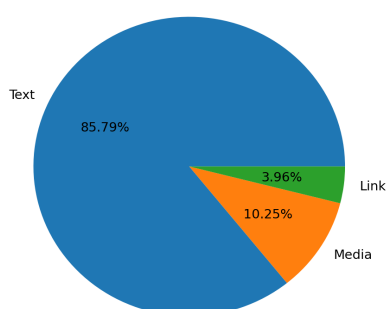


Figure 1: Types of messages in VCoP2

#### 5.2.1 Theme 1: Emoji Accompanying Formal Text

Emojis accompanying text to show formal expressions: applause, congratulations, well done, agreement or best of luck, volunteering

Emojis are used to add and/or compensate for the non-verbal cues in CMC. It was found that the usage of emojis in was more for compensating for absence of non-verbal cues in formal communication. These were used to applaud and appreciate some task done for the group. The emojis used for this purpose were as follows:

VCoP1: 🍷 - 42 times, 🙌 - 3 🙏 - 22 🙋 - 6 times

VCoP2: 🍷 - 655 times, 🙌 - 84 times 🙏 52 times 🙋 - 8 times.

These emojis are found to be repeated in quick succession, mostly in a trio to express emphasis.

The usage of 🍀 is found to be the most ambiguous for it is used to wish “best of luck”, agreement as well as to express “well done”. This necessitates the discourse analysis to set the context for the purpose.

The emojis used in VCoP2 which was formed of self-initiated members which showed movement from periphery towards the core, showed more usage and also more distinction in usage of emojis for the same expression.

The use of emoji for expressing willingness or volunteering for a task was found to be much higher in VCoP1 (👉 -30) than VCoP2 (👉 -9). Discourse analysis reveals that the tasks in VCoP2 were taken up or frequently assumed and allotted in accordance with the capabilities of a personnel. Upon discourse analysis, this assumption is found to have reached over the various instances of interaction and completion of tasks that the capabilities and identities within the VCoP2 are established that also assigns roles as per the expertise.

Usage of 🎉 was found to be more in VCoP1 for celebration or congratulatory messages than VCoP2 with GIFs taking precedence over 🎉 in VCoP2 for the same expression. The cultural context of discourse analysis suggests that this could be due to the fact that this is a neutral, non-personal type of an expression which is considered to be “safe” in a bi-gendered space when there could be mis-interpretations.

*“An emoji or emoticon is easy instead of writing words.”*

*“I feel emoji is also my expression. I might be feeling elated and want to use an elaborate emoji rather than just an applause.”*

*“I started interacting more. Seeing emojis meant it is not just a formal work group but also a community, a place to belong freely.”*

The analysis found that these emojis are used in both VCoPs singularly without any accompanying text. This suggests that members found these emojis to have no other interpretation. Both male and female members in both VCoPs have used these emojis thus eliminating any gender role in its usage in this study.

### 5.2.2 Theme 2: Emoji Accompanying Informal Text

Emojis accompanying text to show informal expressions- laughter and its types, joy, care and goofed up, frustration, embarrassed.

Research shows that it is the informal non verbal communication that helps to increase collaboration and strengthen ties. The sharing of non-formal expressions and emotions play a key role in building up communication and goes a long way to create the feeling of community.

The number of emojis used for expression of such emotions is lesser in VCoP1 than in VCoP2. This is mainly attributed to the reason that VCoP1 comprises core members where the identities, roles and image of the members is already established. It should be noted that VCoP1 is mainly now dealing with policy level decisions while all daily happenings and conversations around them take place in VCoP2.

| Emotion expressed             | Emoji used | VCoP1          | VCoP2            |
|-------------------------------|------------|----------------|------------------|
| Joy, amusement                | 😄 😊 😁      | 59, 60, 141    | 143, 60, 346     |
| Laughter, joking, giggling    | 😂 🤔 😜 😏    | 60, 32, 10, 16 | 245, 220, 31, 83 |
| Anger, devilish               | 😈          | 1              | 22               |
| Doubt, questioning            | 😬 😏        | 27, 1          | 89, 19           |
| Relief                        | 😌          | 101            | 359              |
| Sorrow, Frustration, annoying | 😞 😡 🤦 🙄 😤  | 0, 5, 0, 0, 0  | 5, 28, 3, 46, 30 |
| Love, care and hugs           | 🤗 🤕        | 24, 7          | 60, 19           |

|                                |     |      |       |
|--------------------------------|-----|------|-------|
| Others- goofed up, embarrassed | 😬 🙄 | 8, 0 | 28,43 |
|--------------------------------|-----|------|-------|

As per the discourse analysis, the context of these expressions contribute to the formation of identity as well as image of the member. The affability of the member and the movement of members from periphery towards the core is seen when the other members react to these expressions. The possibility of being able to express these emotions which are largely non formal suggests the existing ties amongst members and opens avenues to strengthen the ties amongst the members and move along together with each other towards the core.

*"Because of use of the 🙄, I actually completed a pending task. I realised that I had forgotten about it and needed to do it. It conveyed much more than the word 'ASAP'. Also, I didn't see it as threatening. I assume none of us did. In fact, we pulled the leg of the person after the task."*

*"I felt genuine feelings when person X sent an emoji (😬) on the difficulties I was facing. It was much better than the messages."*

*"They say, a picture is worth a thousand words. So is an emoji. There is so much difference between the emojis for laughter depending upon the level. We even teased a person for laughing lesser."*

*"I noticed that it becomes easier for me to collaborate with a person who is expressive even in terms of emoji. I can gauge that a person is busier/not relaxed in absence of use of emojis.."*

There are a couple of members who though are at the periphery have had opportunities of collaborations with the core group due to the ties that were formed over such interaction. It is also noticed that lurking behaviour is common and though acceptable in such online communities, it does not allow the members to undertake movement and negotiate their identities and place in VCoP minimizing their contribution to the VCoP as well as restricting career advancement avenues for themselves.

It is also observed that other than joy, amusement and laughter, other emojis are used by female members of the VCoPs as initiation as well as reaction to an expression. This is attributed again to the cultural identities and background of the members as certain Indian communities are not habitually expressive in emotions.

### 5.2.3 Theme 3: Photos shared

The main difference in the sharing of these photos is their nature. Around 80% of the photos shared were mainly about announcements, or screenshots related to work. The analysis shows that initiation of sharing of the photos consolidated the identities of members in the VCoP. The interaction later in the group and individually also indicates that members of VCoP2 perceived a structure of the VCoP1 with respect to the people next in command to the instructor within the VCoP2 especially with respect to certain tasks. This is in sync with the theory (Wenger, 2002) where identities are constantly negotiated and perceived even though there is no formal appointment of any person for any role in a VCoP.

Photos included a variety of themes like celebrations at home front, places visited, things of interest or events and even relatable memes.

*"Seeing the home/artefacts/ food gives a feeling as if you are invited at home. It helped us build the camaraderie."*

*"It was so new to see a particular delicacy which is not prepared in the region where I stay. I tried cooking it later."*

*"When we met in reality, it didn't feel as if we were meeting for the first time!"*

The photographs and memes followed a discussion which allowed for some understanding of different cultures of members. Over a period of one year, the interaction enabled the members to understand different aspects of varied culture including celebrations, the lifestyle and food, and even language aspects were noticed being picked up. Both male and female members of the VCoP were found to share photos of non-formal nature in the VCoP, though the percentage of female sharing photos was found to be higher than the male members. The interaction is more of casual nature irrespective of gender. It is also found that the sharing of photos were not always prompted. This hints at the reification of identities as well as rapport enabling removal of silos.

#### 5.2.4 Theme 4: Using GIFs :

GIFs, like emojis, express emotions (Bakhshi et al, 2016), offer different meanings to the viewers and their meanings are often constructed contextually within the community. GIFs are often based on the TV shows and movies and hence have a cultural context to them. These characteristics make GIFs more engaging and hence play a role in interpersonal communication within a VCoP. Usage of GIFs in a VCoP is also dependent upon finding the contextual meaning.

There was an entire story on the events narrated in terms of GIFs. The people involved in that event were part of VCoP1. This depicts not just the creativity but also the study and interpersonal relationship amongst members since the choice of apt GIF depends on the study of each character. This is found to be in line with the research on usage of GIFs which suggest that since GIFs can be interpreted in multiple ways, the usage is restricted to groups either where the contextualisation would be understood and generate an appropriate reaction or where the trust amongst members is high so as to avoid unwanted reactions.

The high number of GIFs used in VCoPs could be indicative of the high level of trust and better interpersonal communication amongst members of VCoPs. Analysis shows that GIFs, like the shared photos but unlike the emojis, are used as communication tactics to initiate and sustain conversation. GIFs were used to show displeasure without the blunt, include some humour and be 'eye-catching' in certain cases. A GIF based story was created on an incident that involved members of VCoP as a humorous take. Analysis reveals GIFs were used in VCoP2 to convey more and a variety of emotions out of reach of the emojis.

*"The GIF story was brilliant. We could laugh and the whole event unfolded in front of our eyes. We didn't feel as if we missed anything."*

*"The GIF of embarrassment was useful to show the true feeling and it is easier to convey than the text."*

*"GIFs based on films are perfect to show multiple emotions that we experience. We use it often to show our emotion of what happened at work since we all work at different places."*

It was found that GIFs allowed the members to have an insight into each other's popular culture. This enabled members of VCoP2 to pick up certain commonly used phrases in their respective cultures thus allowing more intercultural participation which otherwise remains un-imbibed in a formal learning setup.



Figure 2a and 2b: GIFs used to create a story out of an incident in the VCoP



Figure 3a: Expression of consolation



Figure 3b: Expression of persistence

## 6. Conclusion

The current study investigates the multimodal communication in a VCoP and its effect on the roles and identities of the members and the movement within the VCoP from periphery towards the core of the VCoP. The findings of the study indicate that multimodal communication plays an important function in developing and sustaining interpersonal communication in a VCoP. It suggests that use of emojis and GIFs could enhance the perception of identities and image in the VCoP. The findings also suggest that through the sharing of multimodal elements of communication, allow negotiation of identities to the members of VCoPs. The point highlighted through this study is that such multi modal communication allows for understanding of cultural diversity within multicultural VCoPs and goes a long way in its sustenance. The findings conclude that multimodal communication is an antecedent to trust which is the basis for a VCoP. It is also recommended that VCoPs include and promote multimodal communication in order to strengthen communication and collaboration in the VCoPs.

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