**CHAPTER TWO**

**Literature Review**

**2.0 Introduction**

This chapter gives an overview of the general knowledge on communication, online communication, toxicity in online communication, writing assistant tools and also related works to the research aim.

First part of the literature review talks about communication in great detail ranging from the definition of definition to the types to the forms and also leads us to the emergence of online communication, how much it has been of advantages to us in the society and the disadvantages of online communication.

Toxicity has been one of the major issue in online communication, more about this was given during the course of this chapter and how much techniques has been deployed in tackling toxicity and also the propose pattern which include the writing assistant tools.

Writing assistant tools has a history that runs into ages and also its emergence and growth over the days were discuss in this chapter and also the approach use during the course of the development of the tool (Dictionary based approach was discuss).

The chapter concluded with the brief overview of the related works to the research work.

**2.1 Communication**

The general view of communication is that it is an interaction within a social context. Communication usually involves a sender (source) and a receiver. It involves the interlocutors exchanging signals. These signals could be verbal or graphic, it could be gestural or visual (photographic). In essence, communication involves using codes that are done with the eyes, body movement or sounds made with the voice. Whichever way it is done, there is always a process in which someone initiates a meaning intent that is passed to the interlocutor (receiver). Daniel (2016) asserts that it is when feedback, which involves the receiver responding to the signal by initiating another circle of meaning exchange, has been sent to the sender (source) that the communication process has gone full circle and become complete.

Giffin & Patten (1976) also state that communication is the process of creating meaning as well as ascribing it. It is the exchange of ideas and interaction among group members. The Oxford Advanced Learner’s Dictionary of Current English (2004) defines communication as the activity or process of expressing ideas and feelings or of giving people information. One can safely say that communication is the act of transferring information and messages from one place to another and from one person to another. In a related manner, the Online Business Dictionary describes communication as a two way process. It involves participants reaching a mutual understanding beyond merely encoding and decoding information, news, ideas and feelings. It is important that they also create and share the meaning content in the messages passed (see Daniel, 2013). In addition to this, communication is also seen as a means of connecting people or places. It is also regarded as an important key function of management because an organization cannot operate without communication between levels, departments and employees (*Online Business Dictionary*, 2010; Okenimpkpe, 2010). Again, communication can be defined as a field of study concerned with the transmission of information and broadcasting. It can involve any of the various professions, which have to do with the transmission of information such as advertising, public relations, broadcasting and journalism. The foregoing shows that communication is something human beings do every day in different ways and through different means. That is, the modern man communicates through different methods like speaking, using telephones, blogging, television, art, hand and body gestures and facial expressions. This can happen in closed intimate settings or over long distances. An example is the internet. The acts of communication draw on a number of inter and intra-personal skills like observing, speaking, questioning, analyzing and assimilating. It enables collaboration and cooperation.

Above all, language is the basic level of communication between one human being and another. It is the means by which we pass on our ideas, feelings, knowledge and requests. Awoniyi (1982) affirms that without communication there would be chaos. He adds that human existence and civilization as we know today would disappear without communication. He further claims that there are at least five important elements of the communicative process. This is shown in Table below.

**Table: Elements of communication**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sender (Encoder) | Message | Medium of Transmission | Medium of Receipt | Receiver (Decoder) |

Daniel (2016), following NOUN (2004), elaborates on how these elements of communication interact to make communication happen. The process requires the sender to encode message, through a medium of transmission, which the receiver receives and decodes through the medium of receipt. In essence, the sender must encode the message (i.e. the information being conveyed) into a form that is appropriate to the communication channel and the receiver(s) decode the message in order to understand the meaning content of the message. The goal of communication is for the receiver to understand the message sent. This is explained as the ability to categorize sender’s intent, understand the message sent and act upon it (Merriam-Webster Dictionary).

**2.1.1 Human and Non- Human Communication**

At this juncture, it is necessary to state that there is human and non-human communication. Human communication may be classified as verbal, non-verbal, written and other forms of electronic communication. Non-human communication includes animal communication, communication among plants and fungi and bacteria quorum sensing.

Based on the foregoing, possible answers to the question- “What is communication?” may be: the transmission, exchange of thoughts, messages or information through the medium of speech, signals, signs, writing or behaviour. It can also be said to be the art and technique of using words effectively to impart information or ideas. In simple terms, **communication means speaking to or with some other person near or far away, either face-to-face through speech, telephone calls or text messages, body language, signs and so on.** It can be done by both human and non-human beings. However, it is important to note that non-humans do not **speak** but are likely to communicate through signals or symbolic behaviour. The essential point to observehere is that non-humans communicate too.

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another. It is the means by which we pass on our ideas, feelings, knowledge and requests.

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communication.

**2.1.2 Categories of Communication**

Related to the above are various categories of communication. Of these categories, more than one may occur at a given time. For example, if you are with a group of close friends having a general conversation, you can at the same time be carrying on another tacit, non-verbal or sign communication with someone of your choice, which others in the group may not be aware of. Whatever the category or channel of communication, understanding is the desired outcome or goal of any communication act. Senders and receivers are very important in the communication process. There are many ways by which communication can take place as well as many skills one can employ in the process of communication. Another example is that a parent can communicate displeasure to a child over their behaviour in the midst of people by sign language without breaking the flow of conversation and without others being aware. These signs include frowning, clearing of the throat or stepping on the child’s toes.

**2.1.3 Types and Levels of Communication**

There are many types and varieties of communication, depending on the medium used or the way in which information is exchanged. For example, communication can be done through the internet, telephone mobile phones), speaking, singing, dancing, sign language, touch and eye contact, body language and even the way one dresses. All these inform the types of communication that exist. Teaching is also a type of communication because a teacher passes information to students through channels such as face-to-face in the class, by means of speech, visual aids and experiments, through written notes, on the internet which could be through

Skype, video conferencing or blogging. In addition, there is human (verbal, non-verbal, business or written) and non-human (occurring among animals, plants and fungi, and bacteria) communication. Generally, the following are the types of communication.

**Verbal communication:** This, as the name implies, is communicating using words. This includes sounds, words, language and speaking. Speaking is an effective way of communicating: it is classified into interpersonal communication and public speaking (Aarti, 2011). Interpersonal communication occurs when one person speaks directly to another. Here, communication would be informal: one can say what one really feels, though this is bound by the social norms guiding the sender and the receiver. Public speaking occurs when one person speaks to a large group. In this case, communication is formal; rule bound and centred more on the speaker getting some kind of result. In all of these, speakers may want to entertain, inform, persuade or argue. Verbal communication can also be referred to as oral or spoken. It can make use of visual aids and non-verbal elements to facilitate meaning and enhance rapport and achieve high level of understanding by removing ambiguity and garnering immediate feedback.

**Non-verbal communication**: Non-verbal communication is the process of conveying meaning in the form of non-word messages. It covers all information, messages and ideas we convey without using words; making use of physical communication such as tone of voice, touch, smell and body motion. Non-verbal communication includes music, dance, painting, drama and sculpture. Symbols and sign language are also included (cf. Daniel, 2016). This is because body language, facial expressions, clearing of the throat, physical contact and dress convey a lot of information. A good example of non-verbal communication is sign language, which can be used by anyone at anytime. A non-verbal sign such as bell ringing is a common sign you and I understand. By itself, ringing of a bell means nothing. However, in recognized contexts, it may mean “time for school”, “change of lesson”, “is somebody at home”, “end of lesson”, or “second hand goods for sale.” According to Wilson (1972), not only can almost anything be used as a sign, but almost every sign can be used to communicate several different things. He explains

further that everything depends on agreement about and understanding of the ways in which we use signs. To him, the significance of any sign depends on the context in which it is used.

**Written communication:** This means communicating with other people through written words. Good written communication is practised in many different languages. Email and text messages, reports, articles and memos are some of the ways of using written communication, both for business and personal purposes. An advantage of written communication is that it can be edited and amended many times before it is finally sent to the person intended. Writing is a human invention. There are as many legends and stories on the invention of writing as there are on the origin of language. Legend has it that Cadmus, the prince of Phoenicia, invented the alphabet and brought it to Greece. Stories also have it that the early drawings by ancient humans formed the seeds of present day picture writing. Many such drawings are clearly picture writings in pictograms. Historically, written communication first emerged through the use of pictograms, which were made on stone (Yule,2010). Later, writing began to appear on paper, papyrus, clay and wax. Now, communication is carried on by the transfer of information through controlled waves and electronic signals. Note that the four language skills (listening, speaking, reading and writing) are used in communication but writing is the most complex. Each of these skills is discussed extensively in the subsequent chapters.

**Visual communication:** This is a visual display of information such as topography, photography, signs, traffic codes, symbols and designs. Television and video clips are the electronic form of visual communication (Aarti, 2011).

Intra-personal communication is a level of communication that is general to all types of communication. It is described by Answers.com as language use or thought that is internal to the communicator. Daniel (2016) graphically presented this as “communicating with yourself” (p.32). In essence, talking to yourself is not always about being ‘crazy’ or ‘loony’, she avows. She notes that we do it all the time. To her, it is about tha kind of information that involves the speaker also being the receiver of the message but which most of us are not conscious of even doing. As such, when you write a shopping list, you are engaging in intra-personal

**Non-human communication**

Non-human communication essentially has to do with the communication that does not involve human beings. This is usually described as extra communication. It does suggest that plant and animal communication can be put in this category. In the same vein, cellular communication among micro-organisms could be described in this manner. One could safely describe the transfer of chemical reactions among bacteria and fungi as non-human communication. Even the transfer of viruses as well as the multiplication of cancer cells could be categorised as this kind of communication. I am certain that it is such communication that made the Ebola virus travelled so fast and wide and killed many people along the way during the period it was raging in West Africa recently.

Animal communication can be defined as any behaviour of one animal that affects the behaviour of other animals within the same environment, either now or at a later time. Zoosemiotics is the name that has been used to describe scholarship in this category. It is considered important to the development of the study of animal cognition. Nonetheless, Martinelli (2010) asserts that there is still “a certain curiosity” which surrounds it. This attitude is said to manifest in scepticism and ‘exoticism’. This does not remove the fact that it exists as its fifty years of practice (Martinelli, 2010) appears to affirm.

As noted above, communication is observed within the plant organism. Communication between plant cells, between plants of the same or related species, and between plants and non-plant organism also occurs. These are possible because of the apparent decentralised ‘nervous system’ of plants (Witzany, 2006). This shows that plant also communicate with other plants, especially, when exposed to attack behaviour from plants within their vicinity. In this way, they are actually warning neighbouring plants of possible danger around them. It could therefore be said that communication is not an instrument exclusive for use by only humans, plants and animals, but also available to microorganisms like bacteria. One may be right to relate this to what happens with viral spread such as when an infection is shared within the body of a victim of viral of viral attack. You will agree that such communication may result into the victim’s ailment or, sometimes, even death.

**Mass Communication**

Daniel (2016) describes mass communication as massive. This is because it is usually from a single source to a very large group or audience. The message sent out is not limited to one or two people as with the interpersonal kind of communication. As the name suggests, its audience is usually a very large group of people. For this reason, such media as the newspapers, radio, television or the internet are used to pass the message. Simply then, we can say that mass communication is another means of communicating information, ideas, and messages through various print or electronic media to a large number of people.

Nonetheless, we need to also note that mass communication, also refers to a course of study. For example, in the National Open University of Nigeria, there is a department of Mass Communication. In the same vein, many institutions of higher learning offer it s a course. This is the course that is studied and helps to train many media practitioners around us.

**Codes of communication**

Lawal (2004,18) affirms that language is comprehensively a communication code, a signalling or semiotic system. The *Oxford Advanced Learner’s Dictionary of Current English* defines code as a system of words, letters, numbers or symbols that represent a message or records information secretly. Craig (2000) is of the opinion that communication can be classified according to code, medium or channels through which it occurs and that language is a primary code(or, in different perspectives, a medium or channel) of human communication. He asserts further that code refers to the way a sign system is structured to constitute a particular correlation of signs to meaning. Language is therefore a primary code as well as a medium and channel of communication.

Human spoken and pictorial languages can be described as a system of symbols. These are usually set in patterns of communication, which are called grammars. Many languages of the world make use of patterns of the sound or graphs for symbols, which enable communication with others around them (cf. Yule,2010; Daniel,2011). Yule (2010) actually describes sign language in details. And it is obvious that some broadcasting houses in Nigeria and elsewhere also see that using sign language as a sub-sect of their news broadcast is an important part of connecting with their audience, no matter their physical needs. One cannot but agree with them.

Other codes of communication include signs such as traffic codes, kinesics (gesture, facial expression and body movement), haptics (touch), and paralanguage (vocal pitch, intonation).

**2.2 Online Communication**

The term "online communication" refers to reading, writing, and communication via networked computers. It encompasses synchronous computer-mediated communication (whereby people communicate in real time via chat or discussion software, with all participants at their computers at the same time); asynchronous computer-mediated communication (whereby people communicate in a delayed fashion by computer, using programs such as e-mail); and the reading and writing of online documents via the World Wide Web. Second language researchers are interested in two overlapping issues related to online communication: (1) how do the processes which occur in online communication assist language learning in a general sense (i.e., online communication for language learning); and (2) what kinds of language learning need to occur so that people can communicate effectively in the online realm (i.e., language learning for online communication).

Online social media platforms are arguably among the most culturally significant technological innovations of the 21st century. The numerous benefits include the wide distribution of content crossing geographic boundaries, and enabling interaction and exchanges that are nearly free of physical constraints except for infrastructure. Communities have emerged around every conceivable special interest from science to travel, from politics to child-rearing. The easy spread of data, information, and knowledge was expected to foster informed decision-making, cultural exchanges, and the coordination of activities online and in the physical world.

**2.2.1 History of Online Communication**

Online communication dates back to late 1960s, when U.S. researchers first developed protocols that allowed the sending and receiving of messages via computer (Hafner & Lyon, 1996). The ARPANET, launched in 1969 by a handful of research scientists, eventually evolved into the Internet, bringing together some 200 million people around the world at the turn of the millennium. Online communication first became possible in educational realms in the 1980s, following the development and spread of personal computers. The background on online communication in language teaching and research can be divided into two distinct periods, marked by the introduction of computer-mediated communication in education in the mid-1980s and the emergence of the World Wide Web in the mid-1990s.

In the first period, dating from the mid-1980s, language educators began to discover the potential of computer mediated communication for language teaching (Cummins, 1986). The integration of computer-mediated communication in the classroom itself divided into two paths: on the one hand, some educators began to use e-mail to set up long-distance exchanges, and, on the other hand, other educators began to use synchronous software programs (in particular, Daedalus Interchange (Daedalus Inc., 1989) to allow computer-assisted conversation in a single classroom. Long-distance exchanges and computer-assisted conversation had overlapping, but distinctive, justifications. Both types of activities were seen to shift the focus from language form to language use in meaningful context (e.g., Kelm, 1992; Meskill & Krassimira, 2000) and thereby increase student motivation (e.g., Meunier, 1998; Warschauer, 1996b). In addition, long-distance exchanges were viewed as brining about increased cultural knowledge from communication with native-speaking informants (e.g., Kern, 1995a; Soh & Soon, 1991), and making reading and writing more authentic and collaborative (e.g., Tella, 1992b). Those implementing computer-assisted conversation emphasized the linguistic benefits which could be achieved from rapid written interaction, such as better opportunities to process and try out new lexical or syntactic patterns as compared to oral interaction (e.g., Ortega, 1997; Warschauer, 1999).

Online communication is a new phenomenon, having first come into existence toward the end of the 20th century. It is growing at one of the fastest rates of any new form of communication in human history, and its long-term impact is expected to be substantial. A not uncommon, and, in my eyes, justifiable, view is that online communication represents the most important development in human communication and cognition since the development of the printing press (Harnad, 1991).

**2.2.2 Types of Online Communication**

**Video Conferencing**: Video conferencing have progressed to become one of the best types of online communication. Organization benefit from online conferencing through meetings. The reason for this is meetings let for the discussion of business improvement and the coordination of ideas. Video conferencing software like ezTalks Cloud Meeting let for organizing meetings. It does not matter about the physical locations of a participant therefore best for emergency times. This shows that this promises a quick redress of organization problems and raised productivity. It is affordable and facilitates nonverbal communication also.

**Whiteboards:** Interactive whiteboards are the most new types of communications tools on the internet. They are famous tools for online communication in education. They are useful because they let users to draw,write and communicate with the assistance of an interface that activates a real physical whiteboard. These have become the best online education tools due to the reason their features help in learning. Whiteboards need users to get a mouse to include some content.

**Forums:** There are many methods by that online forums are meant to as,these are discussion boards,discussion groups,and bulletin boards. They can be explained like areas where the users are permitted to post the questions or comments. These forums online are keyboard accessible. These tools use inaccessible for registration. These are insightful tools in education because they has plenty of valuable information.

**Voice over IP:**VoIP is a word which is availed in reference to a voice changing that is made over the internet link instead of over the normal phone line. Several big companies avail VoIP in place of the traditional phone line. It must be considered that it is probable to do VoIP calls over a system however with handsets or a USB headset. The calls are audio oriented and a good example of this kinds of communication tools is Skype. Web 2.0 has developed a new approach and vision from improving technology in to highly interactive and communicational. Magazine such as websites were replaced with interactive,powerful online spaces where authors and visitors can give and assist creating the site and shape the information.

**Email:** Email is also called as electronic mail is among the old tools in types of online communications. It let users to change photos,get news,and send files from different part of the globe. This tool is highly used for public communication,especially in mailing lists. This is not exhaustive because there are other fundamental online tool for communication like newsletters,websites and social networks. The internet has used a better amount of new key stream communication tools which has revolutionized things. The reason for this is different kinds of tools for online communication have greatly decreased the time spend in making and providing messages.

**Social Networks** Social networks has established from knowing that active users online might need to connected and get in touch with each other providing news,life updates,interests etc. Profiles pages which assist you to study about each other were placed in several websites and connected collectively with messaging,chats and extra features like music,video and photo sharing,schooling,group by interests and work. Few social networks are particularly made by interests,people who like music.

**Blogs**: Often referred to as social media, blogs exist on every topic imaginable, and in every industry. Blogs are web logs that are updated on a regular basis by their author. They can contain information related to a specific topic. Blog's give an opportunity to write content that is unique to you and your “practice”. While some people are uncomfortable with self-promotion, blog gives you an occasion to interact with your visitors while promoting who you are and what you do. Today blog’s are being used forall sorts of purposes. From companies that use blogs to communicate and interact with customers and other stakeholders to newspapers that incorporate blogs to their main website to offer a new channel for their writers. Individuals also created blogs to share with the world their expertise on specific topics

**2.2.3 Advantages of Online Communication**

Flexibility: accessible 24×7, any place as long as you have an internet connection

**Levelling**: reserved people who usually don’t speak up can say as much as they like while “loud” people are just another voice and can’t interrupt

**Documented**: unlike verbal conversation, online discussion is lasting and can be revisited

**Encourages reflection**: participants don’t have to contribute until they’ve thought about the issue and feel ready

**Relevance**: provides a place for real life examples and experience to be exchanged

**Choice**: a quick question or comment, or a long reflective account are equally possible

**Community**: over time can develop into a supportive, stimulating community which participants come to regard as the high point of their course

**Limitless**: you can never predict where the discussion will go; the unexpected often results in increased incidental learning

**2.2.4 Disadvantages of Online Communication**

**Text-based**: Predominantly relies on inputting text which can be challenging for those who don’t like to write or have poor keyboard skills, but with the advance of broadband connectivity and voice and video conference technology – this will be less of an issue.

**No physical cues**: without facial expressions and gestures or the ability to retract immediately there’s a big risk of misunderstanding

**Information overload**: a large volume of messages can be overwhelming and hard to follow, even stress-inducing

**Threads**: logical sequence of discussion is often broken by users not sticking to the topic (thread)

**Time lag**: even if you log on daily, 24 hours can seem like a long time if you’re waiting for a reply; and then the discussion could have moved on and left you behind

|  |
| --- |
| Inefficient: it takes longer than verbal conversation and so it’s hard to reply to all the points in a message, easily leaving questions unanswered  **Isolation**: some learners prefer to learn on their own and don’t participate in the discussions  **Directionless**: participants used to having a teacher or instructor telling them what to do can find it a leaderless environment (and that’s where tutors come in)  **Toxic Words:** The use of harmful words has been a great concern for online communication  **2.3 Toxic Language**  In these years, short text information is continuously being created due to the explosion of online communication, social networks, and e-commerce platforms. Through these systems, people can interact with each other’s, express opinions, engage in discussions, and receive feedback about any topic. However, a paramount inconvenience within online environments is that text spread by digital platforms can hide hazards, such as fake news, insults, harassment, and, more in general, comments that may hurt someone’s feeling. These comments can be considered to be the digital version of personal attacks (e.g., bullying behaviors) that can cause social problems (e.g., racism), and they are felt to be dangerous and critical by people who are struggling to prevent and avoid them. The risk of such a phenomenon has increased with the event of social networks and, more in general, within online communication platforms (https://medium.com/analytics-vidhya/twittertoxicity-detector-using-tensorflow-js-1140e5ab57ee). An attempt to deal with this issue is the introduction of crowdsourcing voting schemes that give the possibility to denounce inappropriate comments in online environments to the users. Among many others, Facebook, for example, allows its users to report a post in terms of violence or hate speech. This scheme allows Facebook to identify fake accounts, offensive comments, etc. However, these methodologies are often inefficient, as they fail to detect toxic comments in real time, becoming a requirement within social network communities. A toxic post might have been published online much earlier than the time it is reported and, during the time it is online, it might cause problems and offenses to several users which might have undesired behaviors (e.g., leaving the underlying social platform).  Social media can be a powerful tool that enables virtual human interactions, connecting people and enhancing businesses’ presence. On the other hand, since users feel somehow protected under their virtual identities, social media has also become a platform for hate speech and use of toxic language. Although hate speech is a crime in most countries, identifying cases in social media is not an easy task, given the massive amounts of data posted every day. Therefore, automatic approaches for detecting online hate speech have received significant attention in recent years (Waseem and Hovy, 2016; Davidson et al., 2017; Zampieri et al., 2019b)  Toxicity can be manifested in different ways. It spans a wide spectrum that includes subtle and indirect signals; that can often be no less toxic than overly offensive language (Jurgens et al., 2019). While the research community has made enormous progress in detecting overly offensive language and hate speech (Schmidt and Wiegand, 2017; Waseem et al., 2018; Fortuna and Nunes, 2018; Qian et al., 2019), there has been less focus on computationally evaluating other subtle expressions of toxicity  Online toxicity, defined as hateful communication that is likely to cause an individual user leave a discussion, can manifest itself in various ways, including cyberbullying , trolling, and the creation of online firestorms, defined as “rapid discharges of large quantities of negative, often highly emotional posts in the social media environment” ,where participants attack other groups or organizations. According to Patton et al., online toxicity may result in violent actions also in the physical world and should, therefore, be treated as a matter with serious social gravity. In online environments, toxic behavior is often seen enhanced by the fact that participants can typically comment anonymously and are not held accountable for their behavior in the same way as in offline interactions.  Online hate speech is can be seen as old as the Internet itself. Anti-Semitic and racist hate groups were active on Bulletin Board Systems as early as 1984. In the present time, some communities are specifically geared towards promoting hate speech and providing avenues for expressing politically incorrect values that may not comfortably be expressed in face-to-face interactions. Toxic commenting has also been found prevalent in general online discussion forums, news websites, and social media platforms. The existing research deals with multiple aspects, such as detection and classification of toxicity, assessing its impact on online communities, types of toxicity such as cyberbullying and trolling, and means of defusing online toxicity. To approach toxicity, researchers have investigated multiple social media platforms, such as Twitter, YouTube, Facebook, and Reddit , as well as comments in online discussion forums and news websites. Due to its high prevalence, toxicity has been identified as a key concern for the health of online communities.  defining what we mean by toxic comments. They largely fall into two categories: hate speech and online harassment (aka trolling).  There’s vigorous debate over what constitutes hate speech, but the United Nations defines it as “any kind of communication that attacks or uses pejorative or discriminatory language with reference to a person or a group on the basis of who they are, in other words, based on their religion, ethnicity, nationality, race, color, descent, gender or other identity factor”.  The UN Human Rights Office of the High Commissioner reported in March 2021 that hate speech is on the rise worldwide, and that three-quarters of it is directed at minority groups.  Online harassment is another umbrella term that can be applied to many different kinds of comment. Pew Research Center categorizes it into six types: purposeful embarrassment, offensive name-calling, physical threats, stalking, sustained harassment, and sexual harassment. It says that 41% of Americans experienced at least one of these online in 2020.  **2.3.1 Some Toxic Words**  anal, anus, ass, bastard, bitch, boob, cock, coon, cripple, cum, cunt, dick, dildo, dyke, fag, faggot, fuck, fudgepacker, fuk, greaseball, gypo, handjob, homo, jihadi, jizz, kike, knacker, kunt, muff, muzzie, nigga, nigger, niggur, peckerwood, penis, piss, poop, porch monkey, pussy, queer, raghead, rape, retard, sand nigger, semen, shit, shyster, slut, titties, twat, uncle tom, vagina, vulva, wank, yellow bone |

**2.4 Writing Assistant Tools**

Writing assistants like Writer are online tools designed to catch grammatical errors and writing mistakes to help to make your writing better. There are human writing assistants, but they tend to either help authors write manuscripts or work in the writers’ room to help screenwriters craft movies and plays. AI writing assistants have come a long way since a Stanford student created the first spell-check software in the early 1970s.

Since then, spell check, grammar checking, and autocorrect functionality have become commonplace, and people expect artificial intelligence to help them in their daily lives — whether they realize it’s AI or not. New AI writing technologies have [emerged beyond Grammarly](https://writer.com/grammarly-alternative/) and a cohort of copycats.

Now, AI writing assistants specialize in resume writing (Skillroads), English as a second language (Ginger, Grammarly, Linguix, LanguageTool), customer service and product UX (Writer), advertising (Persado, Phrasee), and many more niches, professional disciplines, and use cases for individuals and businesses.

They are pretty easy to work with, too. You type something into the program. Then the writing assistant checks and fixes your mistakes, in real-time, to improve the quality of your writing.

**2.4.1 History of Writing Assistant Tools**

**1971 The first spell check** is open-sourced, by a graduate student at Stanford’s Artificial Intelligence Laboratory.

**1981 Grammatik** is the earliest grammar checker to hit the market; more of a style and diction checker for PCs, it was years before it could check actual grammatical mistakes. Grammatik was eventually acquired by WordPerfect Corporation and integrated with the WordPerfect word processor.

**1993** Dean Hachamovitch at Microsoft invents **autocorrect for Word**, creating a UX pattern that becomes familiar to billions of computer users. An early grammar checker is released as well.

**2007** Autocorrect comes to **Apple’s mobile OS**.

**2010-2020** Years of progress in machine learning, natural language processing (NLP), and neural networks that allow for the next-generation of paid and free writing assistants to be AI-based.

The advances in deep learning (i.e., neural networks) meant that massive corpuses of well-edited content could train a grammar model on what good grammar looks like — no complex rules necessary. Further advances in machine learning made setting up and deploying these models into products that were easy for users became easier, too.

**Feb 2019** Google’s AI-based grammar checker comes to **Google Docs**.

**Apr 2019 Writer’s AI-based grammar and proofreading check** is released, allowing AI-based writing assistance across the web through its Chrome browser extension.

**Sep 2019 Grammarly** releases its tone detector.

**Nov 2019 OpenAI** releases full version of GPT-2, an AI-based text generator that can create human-sounding long-form content (including fake news).

**2.5 Dictionary Based Approach**

The methods for generating opinion lexicon falls into two main categories, dictionary and corpus-based approaches. The former involves a static dictionary of semantically relevant words tagged with both a polarity label and semantic orientation score or reliability label Dictionary based approach: it is a method that translates a word by word as a dictionary without correlating the meaning of words between them

A text based on the use of a dictionary containing words and their classified categories. For example, the word “agree” belongs to the word categories: assent, affective, positive emotion, positive feeling, and cognitive process

The lexicon based approach uses sentiment dictionary with opinion words and match them with the data for determining polarity.

in the dictionary based techniques, the idea is to first collect a small set of opinion words manually with known orientations, and then to grow this set by searching in the WordNet dictionary for their synonyms and antonyms.

**2.6 Related works**

Offensive Language Detection: Perspective API is a popular toxicity detector for detecting offensive conversations. Waseem et al. (2018) devised a taxonomy and created a dataset to detect hate speech and discrimination.

Xu et al. (2012) studied bullying, Chatzakou et al. (2017) released a dataset to study bullying in online posts

Zampieri et al. (2019a) released a corpus for offensive posts named OffensEval which has been encouraging researchers to study offensive contents.

Safi Samghabadi et al. (2020) released a dataset with emojis for identifying sexually profane language and Rajamanickam et al. (2020) showed joint model of emotion and abusive language detection helps model performance