Acronyms and Abbreviations Application in News Articles: A Comparative Study of Iranian and Indian Newspapers

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ABSTRACT

Acronyms and abbreviations play an important role in people's daily speech and writing. The aim of this paper was to analyze application of abbreviations and acronyms in title and the content of Iranian and Indian newspapers. The paper also intended to find the most frequent types of shortened forms as appeared in these newspapers. The final objective was to find the order in which full and shortened forms do appear in these newspapers. Etela'at and Keyhan from Iran and Bangalore Mirror from India were used as data of the study. All acronyms and abbreviations were extracted and then analyzed in the form of frequency tables. The results revealed that: (1) In Indian newspaper titles, which is an ESL context, acronyms and abbreviations appeared more than Iranian newspapers, which reflect an EFL context; (2) Similarly, when the content of the newspapers were considered again the Indian newspaper embodied much more acronyms and abbreviations; (3) both in Iran (54 cases, 34.18%) and in India (422, 63.08%) initialism was the most frequent shortened form, and (4) with regard to the sequence of appearance of full and short forms it was observed that many cases fell into class IIV which was not included in Kafi's (1991) model. In fact in India, in 602 (89.99%) cases, an acronym, initialism or shortened form was used without any prior or post full form. The results of this study could be used by students of translation, linguistics, language teachers and authors of books.

Keywords: linguistics, acronyms, abbreviations, newspapers, EFL, ESL, Iran, India, comparative study

1. Introduction

'Abbreviation' has been defined as "a short description of the original long phrase. For example, ACL is the abbreviation for the full form **A**ssociation for **C**omputational **L**inguistics" (Zhang, Li, Wang, Sun, & Meng, 2012, p. 3056). Similarly, the term 'acronym' has also been defined in different ways and by many different researchers. Crystal (2003, p. 1) as well as Fromkin,

Rodman and Hyams (2003, p. 95) defined it as "a word formed from the initial letters of a group of words". According to Allan (1986), acronyms were formed from the "initial letters or two of the words in a title or phrase" (p. 241).

Acronyms and abbreviations play an important role in people's daily speech and writing. The application of acronyms, and shortened word forms in general, looks so

natural and routine today that it is hard to imagine a language without them. Further, research in this area is not new due to its great advantages. According to Izura and Playfoot (2012):

> The practice of abbreviating complex words is not new (e.g., INRI is an acronym that dates back to Roman times); however, their use has been relatively sparse until the second world war, when the formation of new acronyms escalated, since they were a convenient way of accelerating and encrypting communication. (p. 862)

To show the ever growing expansion of shortened word forms in language, Izura and Playfoot (2012) reported, "The first edition (1960) of the *Acronyms, Initialisms and Abbreviations Dictionary (AIAD)* comprised only 12,000 headwords, while the 16th edition (1992) included more than 520,000 headwords" (p. 862). Similarly, on importance of abbreviations Divani (1991, p. 31) stated, "Abbreviations have got 25 percent of written and published words, and it is possible that sometimes they can replace the complete form of those words among experts and specialists." In the same vein, Kafi (1991) asserted that the use of abbreviations has increased due to the gigantic size of information available today. This gigantic size and also great productivity – Ayto (1999, p. ix) sees this due to the use of computers and electronic communication – has led to the emergence of a number of websites which reflect the acronyms and their possible full forms. In such websites, *www.acronymfinder.com* being only one example, users can input full forms and retrieve their relevant acronyms or simply input acronyms and get the full forms pertaining to them.

Abbreviations are not generated in different languages in the same way. In fact, different languages have different capacities for generation of abbreviations.

Zhang et al. (2012, p. 3056), for instance, asserted that "generation of abbreviations in Chinese differs from that in English." With regard to the root of this difference they asserted that "…Chinese itself lacks many commonly considered features in English abbreviation generation methods" (ibid). Some researchers tried to present justifications for the application of shortened word forms in language. Kafi (1991), for instance, asserted that abbreviations were used to simplify the original forms.

Technically not all shortened forms are acronyms. In fact, some researchers make a distinction between acronyms and initialisms. Quirk, Greenbaum, Leech, and Svartnik (1985) as well as Yule (2006) divided acronyms into two classes: those pronounced as a word, i.e. *NASA* for **N**ational **A**eronautics and **S**pace **A**dministration, and those pronounced as sequences of letters, i.e. *VIP* for **V**ery **I**mportant **P**erson. Nevertheless, for the ease of discussion, in this paper both types of shortened terms will be deemed as acronyms. This is justified since as asserted by Izura and Playfoot (2012), "Despite the original distinction, the label initialism is rarely used, while acronym has extended its meaning to pronounceable and unpronounceable abbreviations" (p. 862).

Acronyms have been used abundantly in different domains and for different applications as well. Choudhury et al. (2007), for instance, asserted that SMS messages use non-standard form of language; are known for their brevity and limited length. Akbari (2013) analyzed Romanized Persian SMS messages and reported that omissions and contractions were two important features of Persian SMS messages. Balota, Cortese, Sergent-Marshall, Spieler and Yap (2004) and Hudson and Bergman (1985) found out a

positive correlation between word length (measured in terms of number of letters, syllables or phonemes) and word naming and recognition times. Ziegler, Perry, Jacobs and Braun (2001) reported that in oral reading, the participants revealed slower reaction times for words with many letters. Pahlavannezhad, Akhlaghi and Ebrahimi (2012) investigated shortening processes of Persian vocabularies in web chats. They reported that Persian internet users applied different shortening methods like abbreviations, shortened sentences … and shortened even further some shortened vocabularies. Ali Abu Humeid and Altai (2013, p. 171) summarized the motives behind using acronyms as follows:

> Usually, the motive for creating acronyms is either brevity or catchiness in both speech and writing (Hartmann & Stork, 1976, p. 1) … Accordingly, succinctness and precision are highly valued and acronyms can contribute greatly to concise style. Furthermore, acronyms help to convey a sense of social identity, i.e., the group to which it belongs. So, it wastes time and space if such acronyms are stated fully and it would be strange indeed to hear someone routinely expanding USA, AIDS, UNESCO … and all the other well-known acronyms of contemporary English (Crystal, 2004, p. 120).

2. Types of Shortened Forms

Kafi (1991) divided shortened forms into 4 major and 5 minor classes.

The 4 major classes included 'initialism', 'acronym', 'clipping' and 'blending'. Initialism refers to shortened forms which are made of the initial letters of a compound term but which cannot be pronounced as a word. As an example, BBC can only be pronounced as /bi: bi: si:/. Acronym is similar to initialism the only difference being that it can be pronounced as a word. For example, the acronym for **C**omputer **A**ssisted **T**eaching is CAT which can be pronounced as /kæt/, or the acronym for **C**omputer **A**ssisted **L**anguage **L**earning is CALL which can be pronounced as /kɑ:l/. Clipping is a word formation process in which part of a word replaces the whole word. As an example, 'Professional' could be shortened to 'Pro' and 'telephone' could be reduced to 'phone'. In the former example, the first part of the word has been retained while in the second word, the last part of the word has been kept. Finally, blending is a process in which parts of two or more words are combined to form a new term. The famous example for this process is 'brunch' which stands for 'breakfast' and 'lunch'. Here, the first part of 'breakfast' has joined the second part of 'lunch'. 'Smog' a blend of 'smoke' and 'fog' is just another example.

Each of the 5 minor classes, according to Kafi (1991), is a combination of 2 or more of the above major categories. Minor class I describes shortened forms that could be treated both as initialisms and acronyms. As an example, 'VAT' could be pronounced as a single word /væt/ or as /vi: eɪ ti:/. Minor class II describes forms that appear to be member of a given category but behave like another class. For example, the short form for World Health Organization is WHO which resembles 'who' /hu:/ but unlike that word is pronounced like an initialism / dɑ:bəlju: ɛɪtʃ əʊ/. Minor class III describes cases which are a combination of 'initialism+acronym', that is, they have traces of both features at the same time. For instance, 'CD-ROM' for 'Compact Disc read-only memory'. Here, the first part 'CD' is like initialism whereas the second part 'ROM' functions like acronyms since it can be pronounced like a word. Minor class IV is a combination of initialism and clipping. The term 'Advanced Research Projects Agency Computer Network', for instance, could be reduced to 'ARP Anet' in

which the first part is a clear example of an initialism while the second part is a combination of an initialism+clipping which can be pronounced as /ɛɪ ɑːr piː ɛɪnɛt/. Finally, Minor class V denotes initialisms which are pronounced like words. For example, the initialism 'SLCMs' standing for 'sea-launched cruise missiles' could be pronounced as 'Slickems'.

3. Orthography of Shortened Forms

Kafi (1991) introduced 6 different forms of acronyms based on their orthography. In what follows each category is briefly explained: 1) Use of uppercase letters separated by full-stops. As an example, the full form 'International Society for Education through Art' could be shortened to 'I.N.S.E.A'. 2) Use of uppercase letters without full-stops. For this class, the acronym 'NATO' standing for the 'North Atlantic Treaty Organization' is a relevant example. 3) Use of lowercase letters separated by full-stops. The shortened form 'e.g.' as a substitute for 'for example' is a case in point. There is another subclass here which describes shortened forms consisting of lowercase letters without full-stops. In this latter case, the shortened form may be pronounced as a word and may be treated as a word as well – 'laser' and 'radar' are the two commonly cited examples. 4) A mixture of upper and lower case letters without full-stops in between the letters. In this class upper case letters often show the lexical terms and the lower case letters represent the functional morphemes. As an example, 'Dictionary of World Literary Terms' is reduced to 'DoWLT'. 5) This class covers blends which contain an upper case letter in the mid position. Ex: 'digiPulse' extracted from 'Digital' and 'Pulse'. 6) Hybrid forms encompassing syllables and single letters

simultaneously. 'B.Com' for 'Bachelor of Commerce' is a case in point.

4. Research Questions

The following research questions were investigated in this paper:

Question one: In which context, Iranian or Indian newspapers, do acronyms and abbreviations appear more in titles?

Question two: In which context, Iranian or Indian newspapers, do acronyms and abbreviations appear more in article contents?

Question three: What types of shortened forms appear most frequently in the content of Indian and Iranian newspapers?

Question four: In what order do the shortened forms and their corresponding full terms appear in Iranian and Indian newspapers?

5. Methodology

5.1 Data of the Study

In all, three newspapers – two Iranian (*Etela'at* and *Keyhan*), both in Persian, and one Indian (*Bangalore Mirror*), in English, – were drawn on as the data of the study using purposive sampling. *Etela'at* and *Keyhan* were selected by the researcher for a number of reasons: First, they were both well-established newspapers in Iran with large circulation. Second, they had an online version (both in PDF and XML formats) as well which enabled the researcher to copy the title and the content of the news articles and paste them into his word file for further analysis.

India is a vast country with many states and huge population; in fact, diversity of languages and linguistic features is so prevalent in this country. For this reason, the researcher decided to select the Indian newspaper from a single state to neutralize the impact of linguistic variations across the states. Since the researcher had used popularity as one of the criteria to select the Iranian newspapers, *Bangalore Mirror* was

picked up as the target Indian newspaper, from the Karnataka State. This newspaper had features (high circulation and the availability of an online version (xml format)) akin to those possessed by the two Iranian newspapers. All the data of the study was extracted from the three sources on Sep. 25, 2015. All types of news articles available on the website of each journal, within the specified timespan, were listed based on the availability sampling.

5.2 Data Collection Procedure

The researcher visited the website of each of the three newspapers on Sep. 25, 2015 and copied the news articles (both titles and their full contents) and then pasted them into a word file for later analysis. Two types of data files were formed for each newspaper: (1) A list of article titles, and (2) an integrated file encompassing the whole content of the news articles (contents minus titles).

5.3 Procedure of the Study

To undertake this descriptive-comparative study, a number of steps were taken as follows: First, the two data files – list of titles and list of news contents – for each newspaper were reviewed by the researcher and another expert with an M.A. degree in TEFL. Hence, inter-rater reliability was used to increase the accuracy of both data extraction and data labeling. The second rater was used since humans are apt to err and this could reduce the accuracy of the data collected, and accordingly the results reported. This type of reliability was used to reduce and minimize, if not rule out, the rate of errors. Each rater extracted the acronyms and abbreviations from the data files independently. Later, each rater, extracted and labeled each acronym or abbreviation extracted based on the model proposed by Kafi (1991). When the job was over, they compared the two lists and the labels they had assigned to each item. In

case, the two raters had used the same label for a given term, that label was used as such otherwise they discussed the issue and tried to reach a compromise. In case they reached an agreement, that label was considered as final otherwise the case was passed to another expert, with a Ph.D. degree in linguistics, as final judge. The reliability score observed between the two raters was found to be r=0.76. Use was also made of the Word Count Option in Microsoft Word Office. This tool was drawn on to extract the total number of words from each data file, which was needed to compute the ratio of the total number of abbreviations and acronyms to the total number of words in the data files. Having collected all the data, use was made of descriptive statistics like frequency, percentage and ratio figures to analyze the data.

6. Results

In this part, the research questions of the study will be repeated (each under a separate heading) and all the relevant findings pertaining to them will be elaborated on.

6.1 Acronyms and Abbreviations in Titles

The first research question of the study was as follows:

Q1: *In which context, Iranian or Indian newspapers, do acronyms and abbreviations appear more in titles?*

Table 5.1: Application of abbreviations and acronyms in Iranian and Indian newspapers' titles.

Col	Newspaper title	No. of titles	No. of words	No. of abbreviations and acronyms	No. of abbreviations and acronyms per 1000 words	Ratio of abbreviations and acronyms to the whole words
1	Etelaʾat	110	818	6	7.33	0.0073
2	Keyhan	97	877	1	1.14	0.0011
3	Etelaʾat+ Keyhan	207	1695	7	4.13	0.0041
4	Bangalore Mirror	150	1283	67	52.22	0.0522

As indicated in Table 5.1, Bangalore Mirror, from India, encompassed the

highest number of acronyms compared to the other two journals, from Iran. In this newspaper there were, on average, 52 acronyms and abbreviations per 1000 title words (1000 title words was used as the criterion to compare the statistics since the number of titles extracted and analyzed from each newspaper was different). This figure was 7 and 1 acronyms and abbreviations for *Etela'at* and *Keyhan* respectively. Further, the ratio of the number of acronyms and abbreviations to the total number of title words was much higher in *Bangalore Mirror* (ratio=0.052) than in *Etela'at* (ratio=0.007) and *Keyhan* (0.001). When the two Iranian newspapers were considered as a single group, again the number of acronyms and abbreviations in *Bangalore Mirror* outnumbered that in the Iranian newspapers (52.22 vs. 4.13 acronyms and abbreviations per 1000 words).

Figure 5.1a. Titles of news articles in Etela'at   Figure 5.1b. Titles of news articles in Bangalore Mirror.

Figures 5.1a and 5.1b show excerpts of titles from Etela'at and Bangalore Mirror newspapers. An overview of these two figures – which should only be considered as sample titles – reveals that in Etela'at (Figure 5.1a) in 21 titles only 1 acronym (ICT) has appeared whereas in Bangalore Mirror (Figure 5.1b) in 9 titles, 6 acronyms have been used.

Based on the findings of the study, it could be concluded that in Indian newspaper, which is an ESL context, acronyms and abbreviations appear more than Iranian (an EFL context) newspapers.

6.2 Acronyms and Abbreviations in Contents

The second research question of the study was as mentioned below.

Q2: In which context, Iranian or Indian newspapers, do acronyms and abbreviations appear more in article contents?

Table 5.2: Application of abbreviations and acronyms in Iranian and Indian newspapers' article contents.

Col.	Newspaper title	No. of titles	No. of words	No. of abbreviations and acronyms	No. of abbreviations and acronyms per 1000 words	Ratio of abbreviations and acronyms to the whole words
1	Etela'at	110	63926	101	1.58	0.0001
2	Keyhan	97	32640	57	1.74	0.0017
3	Etela'at+ Keyhan	207	96566	158	1.63	0.0016
4	Bangalore Mirror	150	32283	669	20.72	0.0207

Like what was observed regarding research question 1, here again *Bangalore Mirror*, from India, was observed to encompass the highest number of acronyms compared with the two Iranian newspapers. In Bangalore Mirror, there were, on average, about 20 acronyms and abbreviations per 1000 words. This figure was about 1 acronym or abbreviation for *Etela'at* and *Keyhan* respectively. Further, the ratio of the number of acronyms and abbreviations to the total number of words in articles was much higher in *Bangalore Mirror* (ratio=0.020) than in *Etela'at* (ratio=0.0001) and *Keyhan* (0.001). When the two Iranian newspapers were considered as a single group, again the number of acronyms and abbreviations in *Bangalore Mirror* outnumbered that in the Iranian newspapers (20.72 vs. 1.63

acronyms and abbreviations per 1000 words).

Figure 5.2a. Contents of news articles in Etela'at.   Figure 5.2b. Contents of news articles in Bangalore Mirror

As shown in Figures 5.2a and b, acronyms and abbreviations are used rarely in Etela'at but abundantly in Bangalore Mirror. In Etela'at only one acronym (LEZ) has appeared with a frequency of 2 but in Bangalore Mirror in all 16 acronyms and abbreviations have appeared.

Based on the findings of the study, it could be concluded that acronyms and abbreviations appeared more in the ESL context than in the EFL one.

6.3 Types of Shortened Forms

Unlike the first two research questions, here types of shortened forms were studied in the newspapers under study. Accordingly the third research question of the study was as under:

Q3: *What types of shortened forms appear most frequently in the content of Indian and Iranian newspapers?*

Table 5.3: Types of shortened forms observed in Indian and Iranian newspapers based on Kaffi (1991).

Col.	Type of acronyms	Frequency		example	
		Iran out of 158	India out of 669		
1	acronyms	31 (19.62%)	125 (18.68%)	NASA, UNICEF	سانا، هما، سایا، سایپا
2	initialism	54 (34.18%)	422 (63.08%)	D.V., T.R.	اس جی اس، پی ام دی، ال ان جی، پ.ک.ک
3	clipping	65 (41.14%)	106 (15.85%)	Dec, Prof.,	ع، ص، ره
4	blending	--	--	--	--
5	others	8 (5.06%) English forms	16 (2.39%)		

Etela'at and Keyhan have been grouped under a single category 'Iran' here.

As indicated in the above table, in Iran clipping (65 cases, 41.14%), initialism (54 cases, 34.18%) and acronyms (31 cases, 19.62%) were the three most frequently used types of shortened forms in the Iranian newspapers. Blending was not used in the Iranian newspapers at all. In contrast, in the Indian newspaper, Bangalore Mirror, the top three shortened forms were initialism (422 cases, 63.08%), acronyms (125 cases, 18.68%) and clipping (106 cases, 15.85%). So in Iran clipping was the most frequent type of shortened form whereas in India initialism was most frequent.

5.4 Sequence of Appearance of Full and Short Forms

The fourth research question in this study was as follows:

Q4*:* In what order do the shortened forms and their corresponding full terms appear in Iranian and Indian newspapers?

In this research question, the main objective was to illustrate the association between full and shortened word forms. Use was again made of Kafi's (1991) model. He introduced six classes (Colums 1-6) as indicated in Table 5.4 below. Column 7, shows those cases which did not fall within the six categories and were hence miscellaneous.

Table 5.4: The ordering of full and short forms in Iranian and Indian newspapers based on Kafi (1991).

Col.	Ordering of full & shortened forms	Iran (out of 158 cases)	India (out of 669 cases)
1	Indirect Association	-- (0%)	2 (0.3%)
3	Acronym+(full form)	12 (7.6%)	17 (2.54%)
2	Full form+(acronym)	23 (14.55%)	46 (6.87%)
4	Acronym, it stands for "full form"	-- (0%)	-- (0%)
5	Full form, or acronym	-- (0%)	2 (0.3%)
6	Full form… # acronym, as it is known	-- (0%)	-- (0%)
7	Shortened form only*	123 (77.85%)	602 (89.99%)

*. # shows sentence boundary

As indicated in the above table, many cases fell into class VII which was not included in Kafi's (1991) model. In fact in India, in 602 (89.99%) cases, an acronym, initialism or shortened form was used without a prior or post full form. A similar finding was obtained in the Iranian newspapers, that is, 123 cases (77.85%) in Iranian newspapers included shortened forms which had no prior or post full forms. Both in India and in Iran, 'Full form+(acronym)' (46, 6.87%, India; 23, 14.55%, Iran) and 'Acronym+(full form)' (17, 2.54%, India; 12, 7.6%, Iran) ranked second and third.

7. Discussion

Based on the findings in this research a number of discussions could be made. Regarding the first two research questions, it is evident that in the Indian newspaper (an EFL context) more short forms have been applied. This may be due to the wider application and the longer history of English in this country. Use of acronyms and short forms is abundant among native speakers of English and hence it seems quite natural that in India such linguistic elements are used abundantly. In contrast, in Persian language the scope of application of short forms is much lesser than that in India. Even when acronyms are made they do not often have the sort of lesser than that in English. Iran's Academy of Persian Language and Literature (IAPLL) has recently delved into introducing acronyms and short forms to the public but the main problem is that they are not productive in Persian and this may be one of the reasons why people use it scarcely in their everyday speech and writing. Even those few which are used are those which appear frequently on TV or media like 'ارتش' ,'نزاجا' for نیروی زمینی ارتش "جمهوری اسلامی ایران" "Islamic Republic of Iran's Army Ground Forces". This example is a noun and no other derivations of it (verb, adjective, adverb, etc.) are available.

In the third research question it was found that in Iran clipping (65 cases, 41.14%), initialism (54 cases, 34.18%) and acronyms (31 cases, 19.62%) were most frequent but in India initialism (422 cases, 63.08%), acronyms (125 cases, 18.68%) and clipping (106 cases, 15.85%) were most abundant. That is, the same categories appeared in the two contexts though the ordering of the items differed. The high frequency of clipping in Iranian newspapers could be justified by the linguistic properties of Persian, that is, clipping is an active word formation process in Persian whereas acronym and initialism formation are not. But in English all the three categories are well established word formation processes in English and hence the high frequency of such categories in the Indian Newspaper.

In research question four, in Iranian newspapers in 77.85% of the cases,

shortened forms appeared with no prior or post full forms. This is thought to be due to the fact that some shortened forms have already been used so much so that they have acquired a word status and are understood well by native speakers, which nullifies the need for an accompanying full form. Further, since the tradition of application of short forms has been more institutionalized in EFL contexts (India being an example), more short forms with no pre or post full forms appeared in the Indian newspaper.

Due to the advantages of using short forms (lesser space, budget, etc.) it seems necessary to encourage native speakers of Persian to use more short forms than they do now. But to do so, a number of groups must work together including policy makers, university instructors, authors of books and dictionaries, IAPLL, etc.

8. Implications

The results obtained in this study have a number of pedagogical implications. First, it was observed that short forms had been used much lesser in Iranian newspapers than in Bangalore Mirror. This can instigate policy makers, especially those in IAPLL, to spend more time on short forms and short form formation in Persian. It can also encourage teachers and university instructors (especially those who teach courses like morphology) to provide more elaborations on word formation processes to their students. Certainly using short forms can save a lot of space and budget as well. So, publishers of books, journals, newspapers, etc. can also take advantage of the findings of this study. Students can also benefit from the findings of this study. They can learn about the common patterns of use of acronyms and short forms in the ESL context and hence can mimic them to appear more native like.

9. Prospects for Further Research

There is no end to research and no piece of work could ever be deemed as complete. The present paper has not been an exception to this rule. Hence, other researchers may take the present work as a hint and undertaken other researches of their choice. For example, they can consider more newspapers from each country. Or, they may use newspapers from native English contexts. Also, researchers may wish to use other models to analyze the data or consider more data, or study genre other than journalism.

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