





## Technology: a human being's ally or a silent enemy

### *Tecnología: aliada del ser humano o un enemigo silencioso*

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**Palabras claves:**

Lenguas extranjeras, tecnología educativa, riesgos ocultos de la tecnología, conciencia de profesores y estudiantes.

**Keywords:**

Foreign languages, educational technology, technology hidden risks, teachers, and students' consciousness.

**Resumen**

**Introducción:** Los beneficios que se derivan del uso de la tecnología en la educación, particularmente en el campo de la enseñanza y el aprendizaje de lenguas extranjeras, son innumerables. Sin embargo, investigaciones críticas han demostrado que el privilegio asignado a la tecnología esconde consecuencias de las que la mayoría de estudiantes y profesores no son conscientes. **Objetivo:** En este sentido, este estudio pretende dilucidar hasta qué punto los profesores de inglés son conscientes de las amenazas ocultas en la implementación de tecnologías en sus aulas. **Metodología:** Para ello, el estudio transita bajo el paradigma interpretativo y enfoque mixto de la investigación científica. Para el proceso de recolección de datos se aplicó una encuesta y una entrevista semiestructurada a la población. **Resultados:** Los principales resultados evidenciaron una posición ingenua de los participantes que ignoran que el uso acrático de la Tecnología evoca riesgos no sólo académicos sino también éticos, laborales y sociales. **Conclusión:** Estas circunstancias exigen que los docentes adopten una posición crítica respecto de qué, cuándo y cómo utilizar las tecnologías en clase. **Área de estudio general:** Educación. **Área de estudio específica:** Tecnología educativa.

**Abstract**

**Introduction:** The benefits derived after the usage of technology in education, particularly in the field of foreign language teaching and learning, are countless. However, critical research has evidenced that the privilege assigned to technology hides consequences that most students and teachers are not conscious of. **Objective:** In this regard, this study aims to elucidate to what extent English teachers are cognizant of the threats hidden in the implementation of technologies in their classrooms. **Methodology:** For this, the study transits under the interpretative paradigm and mixed approach of scientific research. For the data collection process, a survey and a semi-structured interview were applied to the population. **Results:** The principal results evidenced a naive position of the participants who ignore that an acatically usage of Technology evokes not only academic risks but, also ethical, labor, and societal ones. **Conclusion:** These circumstances demand teachers adopt a critical position regarding what, when, and how to use technologies in class.

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**General Study Area:** Education. **Specific Study Area:** Educational Technology.

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## 1. Introduction

From its origins, technology has triggered paradigmatical changes in all activities humans do or need. In education, for instance, the approaches, theories, methods, strategies, and everything inherent to the teaching and learning process have been progressively changing for the benefit of learners and educators (Cabero, 2004; Cepeda, 2021). Today, innovative strategies and opportunities for managing knowledge are placed on the education palestra by incorporating innovative technologies that offer infinite possibilities to be adapted to specific contexts, realities, and situations. Thus, education has evolved into a more personalized, inclusive, and dynamic process in which students assume authentic roles and responsibilities for constructing their learning (Malpartida et al., 2021).

Due to the implementation of technological resources, the framework of teaching foreign languages has progressed from based-on-grammar teaching to a process where communication is the principal target; from a process where the teacher is the main character to a learner-centered one; from a systematic organization of contents to a recurrent and complex dynamic aligned with real-life situations (Gómez et al., 2019). This from Avalos's (2022) perspective, resulted in many reliable interaction opportunities, contextualized practice, collaborative work, and content sharing focusing on language learning and acquisition (Bozada, 2020).

Henderson (2020), identifies some of the benefits derived after the implementation of technology in academic contexts; these are presented as follows:

*Fosters engagement.* – Since today's learners are digital natives, a based-on-technology class is more interesting and authentic for them. Students, when noticing that learning fits with their needs and wants, put on their best. For instance, when using Augmented and Virtual Reality pupils are immersed in the scientific knowledge triggering cognitive and metacognitive processes that foster meaningful, self, and innovative learning.

*Improves knowledge retention.* – When using technologies, teachers can include in their classes a wide range of didactic resources, such as videos, recordings, images, graphic organizers, interactive illustrations, and games, among others. All these elements make learning more dynamic and involving. Students learn by doing and experimenting, in consequence, knowledge retention is pointedly enhanced.

*Encourages collaboration.* – There are multiple platforms, virtual pages, and social networks that gather students and professionals who share common interests, knowledge, experiences, and ideologies from all over the world. These contexts foster the creation of virtual communities where students teach and learn without traditional restrictions of time and place.

*Improves academic encounters.* – The typical class has been transformed thanks to technology. Today, classrooms include smartboards, audiovisual resources, computers, and internet access. Thanks to these advantages, teachers can propose interactive tasks, artificial experiments, virtual experiences, and synchronic and remote global communicational encounters.

Up to this point, every factor linked to the implementation of technologies in education seems to be favorable. Notwithstanding, various critics like Lustgarten et al. (2020), Rumiche & Solís (2021), and Hötte et al. (2023), have evidenced that the privilege assigned to the usage of technology hides consequences that most students and teachers are not conscious of. Some of the consequences derived after the employment of technologies are:

*Naturalization of cheating and mediocrity.* – Browsers are designed to facilitate users to find the information they desire. Unfortunately, this condition has prompted non-ethic practices which have become even worse with the advent of Artificial Intelligence. Therefore, students are getting used to asking these platforms to do all their academic tasks, diminishing their capacity to think, create, innovate, solve problems, and make decisions.

*Faceless interactions that have triggered insecurity.* – Students trust everything and everybody. This scenario facilitates to murders contact them, particularly with children, persuading them to make risky challenges, fake business, and immoral acts that not only represent a hazard for them but also for their relatives and friends.

*Individualism and egocentrism.* – Electronic games, avatars, and stereotypes have awakened a false perception of reality. Students interact with fribble electronic devices, take care of virtual pets, live in a world created by themselves in isolation, and adopt habits and behaviors based on trends.

*Medical consequences.* - The excessive use of technological devices has generated diverse affections that go from physical to psychological pathologies. Regarding the former, it can be identified blindness, muscle contractures, dizziness, alterations in the alignment of the vertebrae, inflammation, and pain of the articular facets. When referring to psychological problems, it can be mentioned the compulsiveness to check the cell

phone for messages, excessive use of social networks, sleep disorders or anxiety, need to buy the latest technological innovations.

Analogical risks are also perceived in the field of language teaching and learning. Students appear to be overdependent on translation apps (Jaramillo et al., 2017); when using language learning platforms, users must provide personal information which if not adequately protected, could lead to data breaches or illegal usage of this. Besides, due to socioeconomic disparities, not all students may have equal access to technology or high-speed internet, evoking inequalities in language learning opportunities and potentially widening educational gaps (Cabero, 2007).

In terms of Gil & Prendes (2019), technology-based language learning can be isolating, and some students may find it less engaging than in traditional classroom settings with face-to-face interactions. In addition, full-immersing students into technology may lead them to construct virtual or fake life dimensions which can cause cognitive impairments such as attention, reception and retention deficit, hyperactivity, and the impossibility of solving problems and making decisions. Furthermore, academic regressions in orthography and calligraphy.

An important hazard for language teachers is that technology may result in the disappearance of their profession. Since the arrival of platforms like Duolingo, Hello Talk, and Babble; and social networks such as Facebook, YouTube, Instagram, Telegram, WhatsApp, and TikTok, teachers are no longer seen as the primary source of knowledge (Briva-Iglesias, 2021). Even worse, due to applications like Google Translator, iTranslate, Yandex Translate, Microsoft Translator, Babylon Translator, WayGo, and TripLingo; technological devices such as Vasco Translator V4, Timekettle M2 Language Translator Headphones, Pocketalk Classic, Muama Enence, Timekettle WT2 Edge/W3, Vasco M3, PenPower WorldPen Scan Go, among others; translators and interpreters are at risk of disappearing from the labor market in a range of 76.5% according to Millán (2023).

With the basis therein, this study aims to elucidate to what extent English teachers are cognizant of the threats hidden in the implementation of technologies in their classrooms. Being so may determine the difference between the cliched use of technologies and their critical implementation.

## 2. Methodology

Considering the categorization of scientific research paradigms proposed by García & Giacobbe (2013), this study roots itself into the interpretative one. This paradigm assumes that social reality is not singular or objective, but is rather shaped by human experiences, social contexts, and the way they interpret and assign meaning to their world

(Phothongsunan, 2010). Likewise, the study was carried out under the principles of the mixed approach for it includes statistical and narrative information regarding teachers' consciousness about the risks hidden after the acritical use of technologies.

Due to the study phenomenon has not been broadly covered, the study frames within the exploratory research, and the meaning assigned to the participants' contributions, accomplish the characteristics of an interpretative work. For undertaking the data collection process, a survey and a semi-structured interview were applied to the population. The former, through closed questions constructed under the principles of the Likert scale, helped gather numerical data about the study problem. On the other hand, the interview made it possible to elucidate subjective information which contributed to a deeper understanding of teachers' consciousness about the risks of technology.

The population is constituted of 30 English teachers with different professional backgrounds, experience, and labor contexts (*10 Unidad Educativa Guayaquil-Ambato; 18 Universidad Nacional de Chimborazo; 2 Centro de Adolescentes Infractores-Riobamba*). These heterogeneous qualities enrich the meaningfulness of the study and guarantee the reliability of the results. For the analysis and interpretation of the results, the categorization and Descriptive Statistics were principally used. Besides, for analyzing the narratives derived from the interviews, the "Thematic Analysis Model" was used, which privileges "what the interviewees say" but not how they say it (Fernandez-Nuñez, 2015). These contributions are identified by ordinal codes.

E-T\_01

E = Interviewed

T = Teacher

01 = Ordinal number

The criteria to evaluate the survey were established considering the Likert scale. The maximum possible score is 150 (considering that the population is 30 teachers). It is understood that as closer to 150 the criteria are, as less cognizant the participants are about the risks derived from the acritical use of technology. The equation used to calculate the score for each question is the following:

$$Po = (f1) + 2(f2) + 3(f3) + 4(f4) + 5(f5) \quad (1)$$

where:

$Po$  = Score obtained

$f1$  = Never

$f2 = Rarely$

$f3 = Occasionally$

$f4 = Frequently$

$f5 = Always$

The formula used for getting the total average in each category is the following:

$$Pf = \frac{\sum Po}{n} \quad (2)$$

Where:

$Pf = Final\ Score$

$Po = Score\ obtained$

$n = Number\ of\ questions\ per\ category$

To fulfill the principles of ethics and guarantee compliance with the principle of “personal autonomy, confidentiality, and justice” informed consent forms were completed, where participants accepted that their contributions be used in the study.

### 3. Results

As claimed by De Cremer & Kasparov (2022), technology is a double-edged sword. On the one hand, it has revolutionized communication surpassing traditional limitations in terms of time and space; thanks to technology science, medicine, art, music, and so forth, are no longer than a click. Education is not limited anymore to physical contexts. Human daily tasks have been automated in a way they are easier and more profitable. But at the same time, the acritical usage of these wonders hides different risks which are to be elucidated as follows.

The nature of the results suggests the organization of these under four main categories: Academic, Ethical, Labor, and Societal risks, as exposed in Table 1.

**Table 1**

*Punctuation scope*

| Punctuation scope | Criteria       |               |               |                |
|-------------------|----------------|---------------|---------------|----------------|
|                   | Academic Risks | Ethic Risks   | Labor Risks   | Societal Risks |
| [121-150]         | Always         | Totally agree | Totally agree | Totally agree  |

**Table 1**
*Punctuation scope (continuation)*

| Punctuation scope | Criteria       |                            |                            |                            |
|-------------------|----------------|----------------------------|----------------------------|----------------------------|
|                   | Academic Risks | Ethic Risks                | Labor Risks                | Societal Risks             |
| [91-120]          | Frequently     | Agree                      | Agree                      | Agree                      |
| [61-90]           | Occasionally   | Neither agree nor disagree | Neither agree nor disagree | Neither agree nor disagree |
| [31-60]           | Rarely         | In disagreement            | In disagreement            | In disagreement            |
| [0-30]            | Never          | Totally disagree           | Totally disagree           | Totally disagree           |

**Note:** the maximum possible score is 150 considering that the population is 30 teachers

*Academic Risks*

This category is constructed with eight questions focused on identifying how conscious English teachers are about the risks derived after the acritical usage of technologies in the teaching of foreign languages.

**Table 2**
*Academic Risks*

| Questions  | Punctuation |   |   |   |    | Po  |
|--|-------------|---|---|---|----|-----|
|  | 1           | 2 | 3 | 4 | 5  |     |
| Technology assists my students in correcting spelling errors.  | 0           | 0 | 0 | 8 | 22 | 142 |
| Technology assists my students in correcting punctuation errors.   | 0           | 0 | 0 | 5 | 25 | 145 |
| My students prefer to use technological means to write instead of doing it manually.   | 0           | 0 | 0 | 4 | 26 | 146 |
| My students use abbreviations, emojis, and animated gifs to respond to their communicative interactions.                     | 0           | 0 | 0 | 4 | 26 | 146 |
| When my students find an unknown term, they use technology to understand it.   | 0           | 0 | 0 | 4 | 26 | 146 |
| Thanks to Artificial intelligence and writing platforms my students make clear and concise writings.                         | 0           | 0 | 0 | 7 | 23 | 143 |
| To understand extensive readings, my students opt to use technological tools that generate automatic summaries and analyses. | 0           | 0 | 0 | 4 | 26 | 146 |
| My students are getting used to using technological resources to solve English tasks.  | 0           | 0 | 0 | 4 | 26 | 146 |
| Final average: 145   |             |   |   |   |    |     |

**Source:** data gathered through the survey applied to the participants



The results in Table 2 evidence a naive position of the surveyed population. This assumption is corroborated by the participants' contributions in the applied interview. Technology for them, "... is the best ally... to overcome grammar and punctuation mistakes" (ET-14, 2023). "Thanks to Grammarly, my students don't have almost any grammatical or punctuation mistakes." (ET-02, 2023). A critical analysis of these contributions leads to the question; are students or technology who do not make mistakes?

Al-Abdullatif et al. (2020) have no doubts, it is technology.

When the participants affirm, that they "... prefer receiving students' homework through technological platforms, such as Word, Canva, or PowerPoint because of students' catastrophic calligraphy" (ET-24, 2023), as well as their position reflected in the survey (table 2), it is possible to assume that teachers prefer avoiding this phenomenon than making something to overcome it, as stated by Mejía et al. (2018).

Considering that due to technology and Artificial Intelligence "Students can easily understand unknown vocabulary and are able to create very creative illustrations and works; [that]... can summarize PDF documents in seconds or create essays with a click" (ET-13, 2023); corroborate the results evidenced in Table 2. In these terms, the unconsciousness of teachers regarding the academic risks derived after the acritical usage of ICTs is broadly demonstrated. From the view of Quiroga et al. (2019) educators, unfortunately, are not cognizant that students can be exposed to "high levels of addiction generating greater distractions, loss of time, social isolation, obtaining incomplete or filtered information..." or becoming extremely dependent on technology which would end on mediocrity and non-ethical practices.

### *Ethic Risks*

The use of technology brings about plentiful ethical risks that need careful consideration. These risks can vary depending on the type of technology, its application, and the context in which it is used. That is why, addressing the ethical risks associated with technology requires ongoing dialogue, interdisciplinary collaboration, and a commitment to prioritizing human well-being and ethical principles in technological development and deployment. For this, teachers must ensure that the technology devices, platforms, or resources, they are using, enhance learning without causing harm.

**Table 3**

### *Ethic Risks*

| Questions   | Punctuation |   |   |   |    | Po  |
|---|-------------|---|---|---|----|-----|
|   | 1           | 2 | 3 | 4 | 5  |     |
| Artificial intelligence helps students generate activities or tasks in record time. | 0           | 0 | 0 | 2 | 28 | 148 |

**Table 3**
*Ethic Risks (continuation)*

| Questions   | Punctuation        |    |    |    |    | Po  |
|---|--------------------|----|----|----|----|-----|
|   | 1                  | 2  | 3  | 4  | 5  |     |
| I have noticed that my students' tasks do not correspond to their academic development. | 0                  | 0  | 0  | 3  | 27 | 147 |
| My students' academic performance is exceptional thanks to technology.                  | 0                  | 0  | 0  | 16 | 14 | 134 |
| My students' bibliographic sources are reliable.  | 4                  | 16 | 10 | 0  | 0  | 66  |
| My students can critically support and argue their tasks.                               | 13                 | 9  | 8  | 0  | 0  | 55  |
|   | Final average: 110 |    |    |    |    |     |

**Source:** Data gathered through the survey applied to the participants

With the results in Table 3 and the contributions of the interviewees, it could be elucidated that this category of analysis includes two dichotomic views. One which unconsciously privileges the supposed wonders of technology “It is incredible how my students can do very creative images, videos, games, and even writings in seconds” (ET-21, 2023); and another accepts that the tasks students present as part of their academic responsibilities do not fit their language level “My students’ homework is significantly better when they work with technology at home than when they have to work in class without it” (ET-08, 2023). Besides, teachers accept that “...when [assigning] research activities students cannot support their works and most of the time, they don’t include a bibliography, and when they do, the references are from virtual pages such as Tareas.com, significados.com, or Wikipedia” (ET-17, 2023); online pages identified by Nayak & Narayan (2019), as not reliable and trustworthy.

*Laboral Risks*

The advent of technology has profoundly transformed the job landscape, introducing both opportunities and challenges. For instance, automation and artificial intelligence have streamlined processes, increased efficiency and productivity, but also displacing workers in roles involving repetitive tasks. This has led to significant job losses in sectors like manufacturing, administration, tourism, and in some sectors of education. Some of these problems are explicated in the following pages.

**Table 4**
*Labor Risks*

| Questions  | Punctuation |   |    |   |   | Po  |
|--|-------------|---|----|---|---|-----|
|  | 1           | 2 | 3  | 4 | 5 |     |
| Teaching labor without technology is impossible. | 0           | 0 | 15 | 8 | 7 | 112 |

**Table 4**
*Labor Risks (continuation)*

| Questions   | Punctuation |   |   |    |    | Po  |
|---|-------------|---|---|----|----|-----|
|   | 1           | 2 | 3 | 4  | 5  |     |
| Technology makes translation and interpretation, tasks that everybody can do.   | 0           | 0 | 0 | 14 | 16 | 136 |
| Technology allows the performance of teaching activities such as grading, recording attendance, and sending assignments, without the intervention of the teacher. | 0           | 0 | 0 | 12 | 18 | 138 |
| Foreign language learning platforms and applications are very effective.  | 0           | 0 | 0 | 8  | 22 | 142 |
| Final average: 132  |             |   |   |    |    |     |

**Source:** Data gathered through the survey applied to the participants

The results exposed in Table 4 reflect, from our perspective, the most dramatic position of teachers regarding the acritical usage of Technologies. Further, their narratives show their ingenuity and professional self-deterioration. Millán (2023), acknowledges that translators and interpreters are at risk of disappearing from the labor market in a range of 76.5%; but denying this detrimental phenomenon teachers consider that “Thanks to technology, translation is an activity that can be done by every single person in the world” (ET-08, 2023).

Another critical factor in this category is the increasing teachers’ dependence on technology and auto-displacement. ET-19, 2023, argues that “...today working without technology is impossible and also unesthetic.” Following the same logic, ET-03, 2023 assures that “Because, we are teaching to digital natives, not using technology in our classes is going against the nature of students.” To what extent is this true? Trahtemberg (2000), identified that the acritical usage of technologies hinders the possibility for students to solve problems, make decisions, create, innovate, make projects, and significantly learn.

Finally, when teachers argue that “Thanks to Artificial Intelligence their work has become easier.” (ET-27, 2023). “Lesson planning, developing didactic material, making tests, scoring tasks, registering the assistance, etcetera, can be done automatically and without effort.” (ET-06, 2023). They are accepting that technology can do their professional responsibilities and at the same time are accepting their professions are starting to be unnecessary.

*Societal Risks*

The rapid advancement of technology poses significant societal risks that need careful consideration and management. One major concern is the exacerbation of inequality, as access to advanced technologies and the skills to use them are unevenly distributed,

potentially widening the gap between different socioeconomic groups. Additionally, the pervasive nature of digital surveillance and data collection threatens individual privacy and can lead to misuse of personal information. The proliferation of misinformation and deepfake technologies undermines trust in information and can destabilize social and political systems. To what extent teachers are cognizant of this phenomenon is evidenced as follows.

**Table 5**

*Societal Risks*

| Questions  | Punctuation          |   |   |    |    | Po  |
|--|----------------------|---|---|----|----|-----|
|  | 1                    | 2 | 3 | 4  | 5  |     |
| With technology, everybody can learn foreign languages.                                    | 0                    | 0 | 0 | 3  | 27 | 147 |
| Thanks to technology, all social problems can be solved.                                   | 0                    | 0 | 0 | 8  | 22 | 142 |
| Communicating through emojis, GIFs, and stickers is funnier than face-to-face interaction. | 0                    | 0 | 0 | 2  | 28 | 148 |
| Thanks to technology, foreign languages and cultures can be easily adopted.                | 0                    | 0 | 0 | 4  | 26 | 146 |
| My students' technological devices reflect their socioeconomic level.                      | 0                    | 0 | 8 | 18 | 4  | 116 |
|  | Final Average: 139,8 |   |   |    |    |     |

**Source:** Data gathered through the survey applied to the participants

Monsalve-Maldonado & Merchán-De Monsalve (2020), criticize the way how human beings have allowed themselves to be influenced by technology that, used indiscriminately, destroys even the most valuable thing which is the family. If the family is destroyed, society is too. In the words of Terán (2019), today our society is experiencing “the cybernetic syndrome” characterized by embracing plenty of cyber-addict communities who are not aware of what is happening in their surroundings, as exposed in Table 5.

The participants consider that interacting through social networks using emojis and stickers is nicer than personal communication. “Most of the time we communicate with our colleagues and students through social networks. It is interesting because, through these fanny pictograms, we can express our opinions without feeling embarrassed” (ET-16, 2023).

This critical analysis of the use of technology and its negative impact on society leads us to uncover two harmful phenomena. The free path to acculturation and the dramatic socioeconomic gaps caused due to fashion stereotypes, as explained by Pulido et al. (2021). The participants affirmed that “...through the internet, students can be exposed to authentic input and in this way, they can easily acquire American culture.” (ET-08, 2023). “The details of any cultural tradition can be appreciated thanks to videos on YouTube, Facebook, and TikTok. ...for instance, my little son knows a lot about famous

people” (ET-14, 2023). At this point, the reflection would be, how much her son knows about Ecuadorian culture.

#### 4. Discussion

It cannot be denied that the arrival of technology particularly the ICTs has constituted paradigmatic improvements in the quality of human life. But technology does not have to be considered the panacea for every human being’s activity. Along these pages, it has been evidenced that the acatically usage of Technology evokes negative consequences. These circumstances demand teachers adopt a critical position regarding what, when, and how to use technologies in class.

Teachers and students must understand that the non-sense-extensive usage of tech devices creates dependence, addiction, and social interaction disruptions. Academic capabilities such as calligraphy and orthography are significantly affected. Laboral opportunities are being destroyed, among other phenomena exposed in this paper. But believe it or not, this is not the worst part. Recalling Paulo Freire’s ideas, it is that there are plenty of people who do not know this is happening; and even worse, there are people who do not know, that they do not know.” Understanding, signifying, and re-signifying the usage of technology for the benefit of our students and ourselves is a battle that must be fought. For us, it starts taking distance from the systematic principles imposed by hegemonies; this work follows this target.

#### 5. Conclusions

The study offers the following conclusions:

- Teachers are aware of the multiple advantages that technology offers when using it for academic purposes, but most of them ignore the risks they represent if used uncritically.
- It is noticed a privilege and an overvalued position of teachers regarding technology. This phenomenon is even more drastic when referring to the usage of Artificial Intelligence.
- Teachers conceive as positive students’ capacity to develop their tasks by using technology; today, by using Artificial intelligence. Despite this, they accept that these practices (copying and pasting, taking information without any analysis, accepting everything provided on the web) lack ethical and moral principles.
- Technologies are conceived as a fashion or trend to follow. Nowadays, everything is moved through Facebook, TikTok, or Instagram. This scenario may affect people’s capabilities to read, write, research, and think. Even worse, it may represent the starting point of a dehumanization process.

## 6. Conflict of interests

As authors, we assert that there is no conflict of interest regarding the article presented.

## 7. Author contribution statement

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