

## A NEW DEVELOPMENT MODEL OF SUSTAINABLE COMMUNICATION FOR HIGHER EDUCATION INSTITUTIONS

Andreas Ahrens<sup>1</sup>, Jelena Zascerinska<sup>2</sup>, Anastasija Bikova<sup>3</sup>,  
Ludmila Aleksejeva<sup>4</sup>, Mihails Zascerinskis<sup>5</sup>, Olga Gukovica<sup>6</sup>

<sup>1</sup> Hochschule Wismar University of Applied Sciences Technology Business and Design,  
Germany

<sup>2,3,4,5,6</sup> Centre for Education and Innovation Research, Latvia

**Abstract.** Higher education institutions are the important chain in provision of the inter-connections between the workforce (school graduates, youth, or adults), representatives from different economic sectors, experts from research and innovation development organisations, and all the interested contributors. The research purpose is to build a new development model of sustainable communication for higher education institutions. This research is qualitative as it aims at constructing a new model. The research integrates the use of theoretical analysis, comparative analysis of existing models, theoretical modelling, model creation, summarising analysis. Very often the researchers think of the process of communication as a one-way process. The present work allowed for the establishment of the inter-connections between the development of the system of the external and internal perspectives, on the one hand, and the implementation of the process of sustainable communication, on the other hand. The novel contribution of this research is that the sender and the receiver of the information in the sustainable communication process act at the same time, their information meets and exchanges, thereby promoting information interaction or quasi-knowledge creation. Future research intends to include the empirical methods of research. Collection of quantitative data is a future research direction, too.

**Keywords:** data, higher education institutions, information, knowledge, model, sustainable communication, sustainability.

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## Introduction

Higher education institutions are the important chain in provision of the inter-connections between the workforce (school graduates, youth, or adults), representatives from different economic sectors, experts from research and innovation development organisations, and all the interested contributors. In these terms, higher education institutions are principle players that link all these stakeholders. The significance of higher education institutions is emphasized by their widely acknowledged main functions: education, research and innovation. Thereby, modern higher education institutions, being the linking chain between different actors interested in cooperation with higher education sector, play an important role in strengthening regional development as well as economics (Ahrens, Zašcerinska, Amanzholova, Aleksejeva, Zašcerinskis, Aleksejeva, Gukovica, & Abjalkiene, 2021).

The means for linking higher education institutions and their stakeholders from different regional domains and economic sectors is well accepted to be sustainable communication as it refers to each single activity in any life sphere being it a task implementation or opinion exchange.

Sustainable communication is considered to be of great significance as sustainable communication helps solving many issues. For example, strengthening sustainable competitiveness, as set out in the European Green Deal (Fetting, 2020), or ensuring social fairness by putting into practice the first principle of the European Pillar of Social Rights

(European Commission, 2018), or building society resilience to react to crises, based on the lessons of the COVID-19 pandemic.

The research purpose is to build a new development model of sustainable communication for higher education institutions.

This research is qualitative as it aims at constructing a new model. The research integrates the use of theoretical analysis, comparative analysis of existing models, theoretical modelling, model creation, summarising analysis.

### **Methodology of the Model Creation**

The methodology of a model creation implies a range of logical and sequential steps. In Step 1, the term “model” is defined. This also would need the comparison of model definitions, structures, and procedures. Afterwards, in Step 2, scientific literature on sustainable communication is reviewed and analysed. We analyse the terms “sustainability and “communication” first separately and, later, “sustainable communication” as one unit of analysis. We found out that sustainable communication is closely related to the terms “data”, “information”, and “knowledge”. Then, in Step 3, a new development model of sustainable communication for higher education institutions will be shown and explained in detail.

It should be pointed that the methodology of this research is not a linear process. If Step 2 does not give the expected results, then the researchers return to Step 1 and revise the implemented work. The same refers to Step 3: if the results of the research in Step 3 are not satisfactory, the researchers re-consider the work done in Step 2.

### **Research Results**

Before we start the creation of a model, it would be great to understand what a model means. Thus, our search reveals that there are some definitions of the term “model” exist. Some definitions refer to a model from the point of view of mathematics or engineering as well as other scientific disciplines. However, we looked for a more general definition of the term “model”. The notion of the term “model” was identified by Kühne (2004) as a description of something. We found this definition to be not complete as there was no indication on whose description it should be. Secondly, the use of ‘something’ does not sound as a very scientific term. Due to these, in our work, we rely on the model definition as a pattern of individual’s or individuals’ interpretation of a phenomenon (Ahrens, Purvinis, Zaščerinska, & Andreeva, 2015). Models can be described verbally, digitally, graphically, in a video format, and in other forms (Ahrens, Purvinis, Zaščerinska, & Andreeva, 2015). Features of a model have to be provided (Ahrens, Purvinis, Zaščerinska, & Andreeva, 2016), too. The features of a model are highlighted by parameters (Ahrens, Purvinis, Zaščerinska, & Andreeva, 2016) or, in other words, indicators. Summarising these ideas, we can say that a model means a pattern of individual’s or individuals’ interpretation of a phenomenon in a variety of formats (visual, graphical, computer, etc) that is characterised by indicators.

The present work considers a definition of a phenomenon to be a model. Definition means the statement of the phenomenon notion, elements and process (Ahrens, Zaščerinska, & Andreeva, 2013).

Consequently, this work will focus on giving a definition of sustainable communication. The definition to be created will disclose the notion, elements and procedural aspects of sustainable communication, thereby creating a new development model of sustainable communication.

Sustainability is often connected with stability (Emas, 2015). Stability is understood as the process that proceeds without significant changes. This leads us to the need for two-sided sustainability (Ahrens, Zascerinska, & Aleksejeva, 2021):

- sustainable communication, and
- sustainability communication.

In this work, we differentiate these two terms in this way (Ahrens, Zascerinska, & Aleksejeva, 2021):

- Sustainable communication refers to the sustainable process of communication or, in other words, the sustainable process of information exchange (Elving, 2020), and
- Sustainability communication means communication for sustainable development or, in other words, individual's knowledge, skills and attitudes to sustainable development.

Sustainability can be external and internal (Ahrens, Zascerinska, & Aleksejeva, 2021). Table 1 shows the relationships between the external and internal perspectives as well as sustainable communication and sustainability communication.

*Table 1 The inter-relations between the external and internal perspectives as well as sustainable communication and sustainability communication (the authors)*

<b>The system of the external and internal perspectives</b>	
<i>External perspective</i>	<i>Internal perspective</i>
Sustainable communication	Sustainability communication

Consequently, individuals transform information into knowledge. Individuals' knowledge, skills and attitude are the results of information processing.

Here, the relationships between information and knowledge have to be highlighted. Conventionally, when discussing the relationships between information and knowledge, the term "data" is also referred. Table 2 demonstrates the relationships between data, information and knowledge.

*Table 2 Relationships between data, information and knowledge (the authors)*

<b>Term</b>	<b>Data</b>	<b>Information</b>	<b>Knowledge</b>
A short definition	Symbol	Facts	Definition
A short description	Code, numbers, sign, text, audio record, or images, etc (Kemp, Butler-Henderson, Allen, & Ayton, 2021).	Event statement (Zelinkis, 2020; Kalpana & Kumar, 2020)	Statement of the phenomenon notion, elements and process (Ahrens, Zašcerinska, & Andreeva, 2013)
Relationships between the terms	Data contain new facts (Lasmanis, Sporāne, Pakalne, Kalniņa, Mukāne, Hofmane, & Mauliņa, 2008)	Information is processed, analysed and interpreted data (Sedkaoui, 2019).	Knowledge is the processed information (Ferreira, 2008)

It can be identified that

- data are the basis of information,
- information stems from data and lays the ground for knowledge, and
- knowledge is the processed information rooted in data.

From the relationships between data, information and knowledge, we can discover the directions of movement between data, information and knowledge:

- from data
- through information
- to knowledge.

Organisation of an efficient process of sustainable communication is an issue in many fields of our life as it allows for the increase of its results.

Conventionally, the communication process is regarded as a one direction linear process as depicted in Figure 1.



*Figure 1 The phases of the communication process* (the authors)

We consider the process of communication to be activity (Tišla, 2003). Accordingly, the Activity Theory by Leontyev (Leont'ev, 1978) is applicable to the design of the process of communication. It should be pointed that the activity concept originated with Vygotsky (Blunden, 2009), although Activity Theory is associated with the name of Leontyev rather than Vygostky: Leontyev made a distinction between the individual action, and the social activity of which it is a part (Leont'ev, 1978) and which gives it meaning (Blunden, 2009).

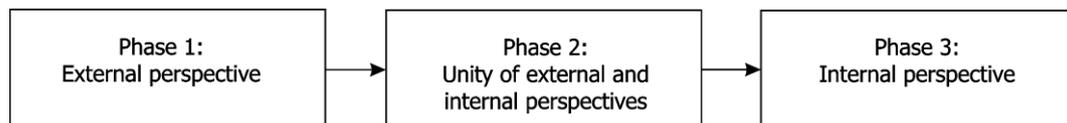
Law of Development or, in other words, interiorization (Sitarov, 2004) defined by Vygotsky as transformation of the external culture into the individual internal (Wells, 1994) means that any function in the individual cultural development appears twice or on two planes (Wells, 1994):

- first on the social level (the external perspective), and
- later, on the individual level (the internal perspective).

It means that the process of sustainable communication consists of two phases:

- Social activity in Phase 1, and
- Individual action in Phase 2.

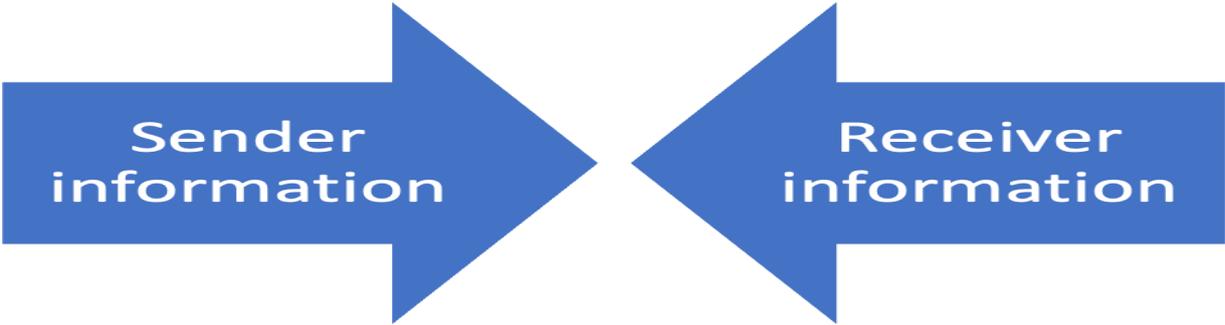
Later, the process of interiorization was widened by one more phase, namely the unity of external and internal perspectives (Zaščerinska, 2013). Figure 2 reflects the advanced process of interiorization.



*Figure 2 Phases of the development of the system of external and internal perspectives* (Ahrens & Zaščerinska, 2012)

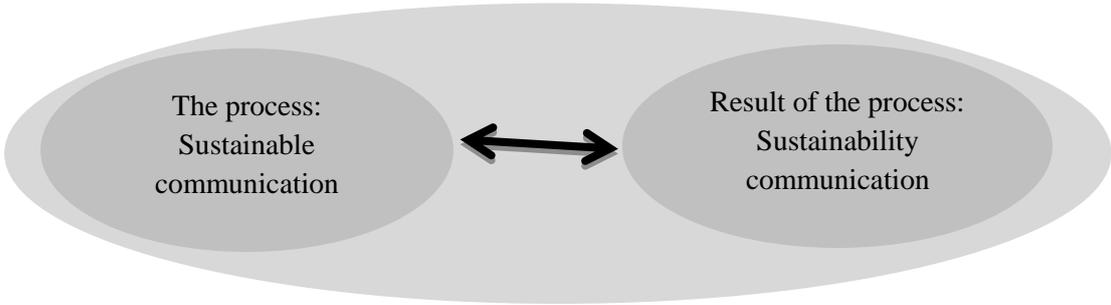
The advanced process of interiorization allows assuming that the communication process is not the information exchange, as it is widely accepted, but information interaction. It means that any information is not transferred in one way, namely from the sender to the receiver. Opposite, the sender and the receiver communicate with each other at the same time

as illustrated in Figure 3. These individuals' information meets, interacts, and enriches each other, thereby contributing to the creation of new knowledge.



*Figure 3 The relationships between the sender and received information in the process of communications (the authors)*

It should be noted that we imply that there exist the relationships between the process of sustainable communications and the results of this process as shown in Figure 4.



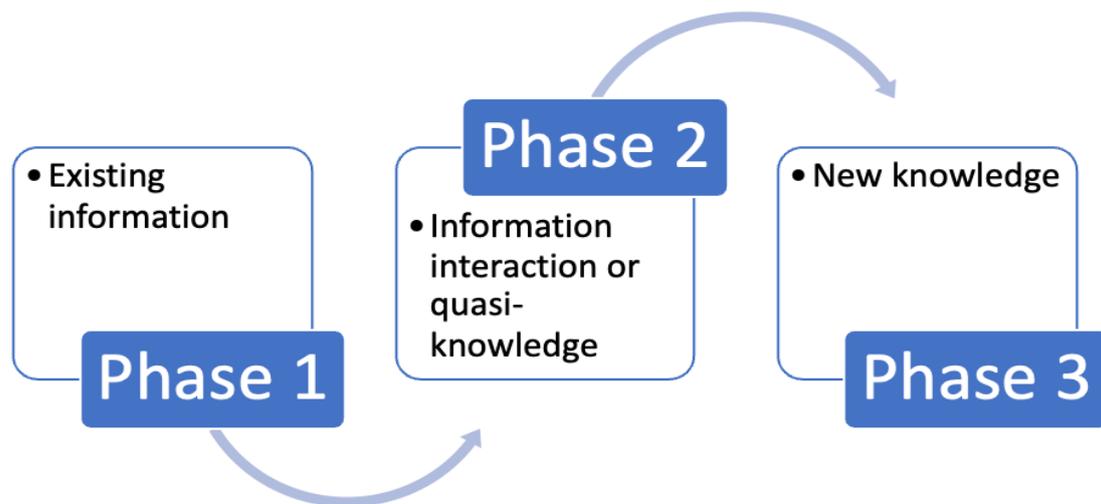
*Figure 4 The relationships between the process of sustainable communications and the results of this process (the authors)*

The process of sustainable communication refers to the process of information exchange (Elving, 2020) while sustainability communication means individual's knowledge, skills and attitudes to sustainable development.

We define the process of sustainable communication to be (Ahrens, Zaščerinska, Lange, & Aļeksejeva, 2021)

- a cyclic process as it can be repeated,
- of social nature as it changes within and by society,
- of bi-module nature as it includes both external and internal perspectives.

Based on these findings, we propose that the process of sustainable communication, on the basis of the relationships between information and knowledge, proceeds in three phases as revealed in Figure 5.



*Figure 5 The phases of the process of sustainable communication (the authors)*

From the relationships between information and knowledge, we can discover the directions of the movement between information and knowledge:

- from existing information in Phase 1
- through information interaction or, in other words, quasi-knowledge, in Phase 2
- to new knowledge in Phase 3.

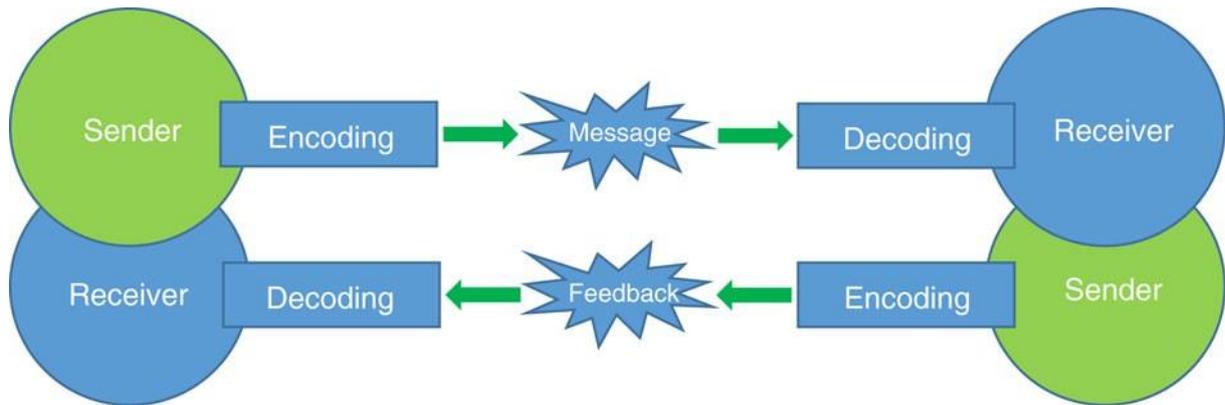
From our point of view, the process of sustainable communication oriented to new knowledge creation has to undergo through all the three phases as each phase of the process of sustainable communication is built on the previous one. Here the recommendation is that the next phase of the process of sustainable communication is not initiated till the present phase of the process of sustainable communication is completed.

## Discussion

A point for a discussion is the establishment of the inter-connections between the term “model” and “definition”. This research result allows for the finding that definition is a model. However, in comparison to the definition serving as a model, models can be represented by a variety of formats: visual, graphical, computer, etc. The comparative analysis of definition of the term “model” provided by other researchers contributed to the identification of the definition of the term “model” formulated in the present work. This work offered a new perspective on what the term “model” is. In comparison to the definitions of model proposed by other researchers, the present work outlines that

- interpretation of a model belongs to an individual or individuals,
- model has to be characterised,
- model has to be featured by indicators.

Another issue to be considered by the scientific community as well as teachers is that very often the researchers think of the process of communication as a one-way process, despite they call it interactive, as shown in Figure 6. For example, the communication process is conventionally described like that: “The sender receives a stimulus and encodes a message for the receiver. The receiver interprets the message and returns feedback to the first point” (Llopis-Lorente, Díez, Sánchez, Marcos, Sancenón, Martínez-Ruiz, Villalonga, & Martínez-Mañez, 2017, p. 3). According to these researchers (Llopis-Lorente, Díez, Sánchez, Marcos, Sancenón, Martínez-Ruiz, Villalonga, & Martínez-Mañez, 2017), afterwards, the sender and the receiver change their roles, and the cycle starts from the beginning.



*Figure 6 Interactive model of communication (Llopis-Lorente, Díez, Sánchez, Marcos, Sancenón, Martínez-Ruiz, Villalonga, & Martínez-Máñez, 2017)*

From our point of view, if two people are communicating, for example, one of them is talking about something. The second person can already react to the words of the speaking person by his/her face expressions or body language. This reaction is also communication as the speaking person based on the reaction of the listener can change

- the focus of his talk,
- the speed of delivery,
- the topic of the discussions, etc.

Thereby we support the finding that any activity is communication (Zašcerinska, 2013). Communication can be a movement of hand, facial expression, gesture, spoken words, and many others ways of information exchange.

Consequently, the connections between the external and internal perspectives assisted in finding that individuals do not communicate in a sequential way but they interact with each other at the same time. This is the novel contribution of this work.

## Conclusions

The present work allowed for the establishment of the inter-connections between the development of the system of the external and internal perspectives, on the one hand, and the implementation of the process of sustainable communication, on the other hand.

The novel contribution of this research is that the inter-connections between the sender of the information and the receiver of the information in the sustainable communication process act at the same time, their information meets and exchanges, thereby promoting information interaction or quasi-knowledge creation. Information interaction or quasi-knowledge creation can be determined as a new phase in sustainable communication. The phase of information interaction or quasi-knowledge creation is found between Phase 1 Existing information and Phase 3 New knowledge.

The theoretical analysis of the terms “sustainability”, “sustainable”, and “communication” within the frame of the external and internal perspectives promoted the finding that sustainable communication is the process, and sustainability communication is the result of this process. The research results also reveal the phases of the sustainable communication process aimed at new knowledge development, thereby these phases are being considered as the new development model.

Implications for the implementation of sustainable communication imply that

- Sustainable communication is only one perspective, namely the external perspective, of the whole when referring to the relationship between sustainability and communication.
- Sustainable communication should be analysed in relationship to sustainability communication as both are intertwined.
- Sustainable communication is fully implemented when sustainability communication is complete, too.
- Sustainable communication promotes the enrichment of individual's knowledge, skills and attitude.
- If sustainable communication ends without a positive increase in sustainability communication, sustainable communication should be repeated.

The present research is limited by the established inter-connections between the development of the system of the external and internal perspectives, on the one hand, and the implementation of the process of sustainable communication. Another limitation is that the research was only qualitative. A limitation is also that only theoretical methods were deployed in the present work.

The main concern in future research is the analysis of factors impacting Phase 2 Information interaction or quasi-knowledge creation in sustainable communication. Investigation of cultural aspects of information interaction or quasi-knowledge creation requires research efforts to be devoted to.

In regard to the use of methods, further research intends to widen the use of research methods from only theoretical to empirical ones. Collection of quantitative data is a future research direction, too. For this, an online survey could be carried out. The sample might engage higher education institutions' academic staff, management members, and students, on the one hand, and, on the other hand, companies' representatives, governmental staff members, and other interested stakeholders. Interview and, specifically, focus group interviews could enrich the quantitative data to be collected from the online survey. The comparative analysis of answers obtained from different groups of respondents also deserves researchers' attention to be implemented.

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