

# **Globalization, information revolution, and their relations to education: Emphasizing J. F. Lyotard's view**

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## **Abstract**

**Globalization is regarded as a process or a project or a process/project which is most rapidly developing. Globalization, in case of occurrence, will put its impacts on all dimensions of human life including knowledge and practice. Particularly, its impact on epistemology and education would be remarkable. Given that the appearance and development of informational revolution is the most important background for globalization, the first challenge of globalization relates to the nature of knowledge. According to the information revolution, the most important characteristic of knowledge is to be sought in this equation: knowledge = information. This involves reducing different facets of knowledge to quantitative information which leads to knowledge legitimacy crisis. In addition, having a communicational dimension, knowledge will be qualified by means of the shape and characteristics of community in the era of globalization. The viewpoint of virtual community calls us from another side to rethink on knowledge as well as on the problem of identity because in the consequence of virtual community, virtual identity of pupils is being**

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**claimed which involves identity fragmentation. To deal with these challenges, education needs: a) to resist the reduction of knowledge to information and equate knowledge with wisdom rather than information; b) to extend imaginative and creative procedures; c) to develop interdisciplinary studies as an important way of extending imagination; and finally, d) to provide relationship between virtual and real communities of the pupils.**

**Keywords: Globalization, epistemology, challenge, education, information, knowledge, virtual community, virtual identity.**

## **Introduction**

In the recent years, the concept of globalization has been extended from the realm of economics to other realms including education. In spite of the wide usage of this concept it has still some ambiguities (Green 1997).

In order to clarify the concept, some have distinguished between globalization and globalism (Kly 1999). Globalization refers to a more or less natural situation that inevitably appears due to the development of phenomena like computers and the internet. On the other hand, globalism refers to an intentional activity by means of which a particular ideological or socio-economic system is woven into the natural process of globalization and is globalized in this way. This kind of globalism has been regarded to be intensified since the collapse of the Soviet Union.

This distinction is similar to the distinction made between globalization as a process and as a project. Globalization as a process indicates a more or less natural phenomenon whereas it, as a project, refers to an intentional activity. Giddens (1990), for instance, regards globalization as the result of the project of modernity. Habermas (1975) has also talked about the project of modernity a consequence of which would be globalization in which the nation-state system will be replaced by a post-national political system.

However, so far as these distinctions are concerned, it should be emphasized that there could not be a clear-cut distinction between the features of globalization. The distinction of natural/intentional or process/product should not be taken as an accurate distinction because it could not be claimed that the natural or process side does not involve intentions.

In the present paper, globalization is not regarded as merely a process, rather an integration of the both sides of process and project is presupposed. Globalization will be discussed in terms of its epistemological challenges to education in which knowledge has a central position. It should be noted that even though the phrase of 'epistemology' might not be tenable for post-modernists in general, and Lyotard in particular, it is used here just for its well-known indications to knowledge.

### **Globalization and the nature of knowledge**

The first epistemological challenge of globalization is on the very concept and nature of knowledge. The information revolution, being an important factor in globalization, has provided some grounds for thinking about the nature of knowledge. Some have positively taken the notion of information as a key for understanding the nature of knowledge, while others have negatively referred to information in relation to knowledge.

Taking the positive stance, Foray and Lundavall (1995) have tried to provide a deeper understanding of the development of knowledge in the information age. Relying on Lundavall and Johnson (1991), Polanyi (1967; 1958), and Nonaka (1994), they have talked about four realms of knowledge: know-what, know-why, know-how, and know-who. Know-what refers to facts, know-why is about the scientific knowledge on cause-effect relations, know-how refers to practical skills and finally, know-who is on the knowledge of social relations. Within these four realms, it is also possible to talk about different forms of knowledge.

Polanyi has distinguished between tacit and explicit forms of knowledge. The former refers to a knowledge which is not

conscious but nevertheless is being taken for granted and plays an important role in guiding the activities of individuals as well as organizations. This kind of knowledge is context-dependent. On the other hand, the explicit knowledge is acquired consciously and is stated with a clarity that makes it understandable for others.

Nonaka uses two concepts of 'externalization' and 'internalization' to refer to transformations of knowledge. The former concept is meant to indicate the transformation of implicit knowledge to the explicit one and vice versa about the latter. These successive transformations that have a spiral shape are regarded to explain the expansion of new knowledge. In other words, when an implicit knowledge is defined and explained in an explicit form, it is combined with other explicit knowledge and when these new combinations become successful, they are taken for granted and lead the activities of individuals and organizations in an implicit way. Again, by the emergence of inadequacies of this leading tacit knowledge, its explicit form is noticed and this, in turn, leads to providing new combinations between it and other kinds of explicit knowledge. This process, in turn, leads to a new tacit knowledge and so on and so on in a spiral way.

Nonaka uses this spiral movement of knowledge from implicit to explicit and vice versa to explain the situation of knowledge in the information technology (IT). Accordingly, the ability of producing knowledge in IT stems from its facilitation for providing combinations of explicit knowledge. This becomes possible by means of codification of knowledge. In this way, complexities of knowledge data are reduced and by this reduction the possibility of combination of different pieces of knowledge increases. Nonaka admits that the capacities of different realms of knowledge for accepting codification are by no means the same. Know-what and know-how kinds of knowledge have more capabilities in this regard so that the former leads to providing databases and the latter to expert systems.

However, the same characteristic of codification has been the target of criticisms in the negative stance to the information revolution in giving an adequate account of knowledge. Lyotard

(1979), in his well-known book, "The Postmodern Condition", has taken such a position. According to him, since the appearance of post-industrial societies from the 1950s, the concept and position of knowledge has been changed in an essential way. This change has strong relationships with technological developments that appeared in the process of information revolution. Accordingly, the concept of quantitative information has taken a central position so that it could be predicted that any kind of knowledge which is not translatable into quantitative information will be put aside.

Lyotard wrote his book in 1979 and after that time he has criticized some of his viewpoints. For instance, he has referred to his overestimation of the importance of 'narrative knowledge' in comparison to the 'scientific knowledge' (Lyotard 1992, p. 31). However, his analysis of the inadequacy of information revolution in giving an account of knowledge is still worth-noting. Lyotard (1993a, p. 27) believes that we still need to criticize "the shallow notion of information".

According to Lyotard, the equation (knowledge = information) which is a product of the information revolution will lead to a crisis in the legitimation of knowledge. When the quantitative information is regarded as the exclusive relying point for knowledge, the result will be that knowledge will always be external in relation to the knower no matter in what point of the process of knowledge the knower be.

This process of externalization of knowledge leads to regarding knowledge as a product the value of which could only be related to its external functions or benefits. Knowledge as an informational product which is not separable from the production power becomes an essential condition for the universal rivalry of power. In other words, when knowledge turns into information, it will have political functions in addition to its economic functions.

Lyotard believes that the legitimation crisis to which this concept of knowledge leads has two dimensions. Firstly, the externalized knowledge which has no longer a satisfying inner significance for the knower (a characteristic which Lyotard believes the narrative knowledge has) will have an alienation effect and will

lose its basic meaning unless there will be benefits. The phrase of 'knowledge-based economy' presupposes such a meaning for knowledge (e.g. Foray & Lundavall 1995).

Secondly, this externalized knowledge could be an instrument in the hands of powerful authorities to provide normative grounds as to what should be considered as knowledge. Hence, Lyotard (1979) says that in the computer age, the problem of knowledge is, more than ever, a problem related to the state.

According to Lyotard, the information view provides the background for the legitimation of knowledge in terms of 'performance' and its criterion, namely 'efficiency'. In other words, knowledge or information is legitimate on the ground that it has performance and could be exchanged like goods. However, since performance and efficiency are technological terms, they cannot give us a rule for judgment on what is true, just or beautiful. The logic of performance is hegemonic because it does not tolerate the difference of language games, rather it tries to reduce everything, namely true, just, and beautiful things, to information. The order of informational knowledge is: "be operational or perish" (Lyotard, *ibid*, introduction).

Lyotard believes that the technological nature of information makes it unable to provide legitimation for knowledge. Knowledge with regard to their different forms could not be reduced to information. In addition, the informational knowledge is even unable to give legitimation to itself. This is because it regards its main characteristic, namely efficiency, as the justification for itself. In other words, it tries to justify itself. However, this kind of justification and legitimation in terms of immediate effects has been always inadequate. That is why, according to Lyotard, 'meta-narratives' have usually been appealed to in order to provide a persuasive justification. 'Inner value' of knowledge in metaphysical attempts like that of Plato and the emancipatory role of knowledge for providing a good end for the human history like that of Marx are examples of such meta-narratives. According to Lyotard, in the postmodern era that meta-narratives have lost their significance and, on the other hand, where the logic of performance is also

impotent, the crisis of knowledge legitimation becomes a big issue for the information revolution.

### **Globalization and the social aspect of knowledge**

One of the important consequences of globalization will be seen in developments in the structures of societies. Since knowledge has a basically social aspect, changes in the structures of societies will have consequences for knowledge.

First, we should notice the possible impact of globalization on the increase or decrease of harmony among societies. Some think that globalization would lead to the increase of harmony at the level of globe so that the standards would be accepted throughout the world. Giddens (1990), for instance, believes that globalization is nothing but the extension of modernity at the global level. Modernity led to the appearance of societies in the shape of nation-state with capitalist economy, national industry, and national military system. According to Giddens, the nation-state model of society would continue to exist in the globalization age but due to close social relations at the global level, the capitalist economy, the military system and the division of labor would take international characteristics. Thus, Giddens believes that what post-modernist thinkers suggest as the new developments are not but radicalized modern developments.

Unlike Giddens, Habermas (1975) believes that the nation-state model of society would disappear and would be replaced by a post-national system. Still like Giddens, he regards the products of modernity as the basis of global order. According to him, democracy as the most important product of modernity would be the basis of legitimation at the global level. Thus, the individuals will be the global citizens who act on a global responsibility. The basis of this new global order, according to Habermas, will be an "ideal speech situation" with the characteristic of logical dialogue between the individuals, which would lead to a consensus among congruent people.

In spite of the thinkers who understand globalization in terms of harmony, some emphasize on difference. Lyotard believes that there are two basic concepts on society. One concept (like that of Durkheim) regards society as an organic system that works on the basis of the cybernetic model and feedback effects. The other concept (like that of Marx) considers society as including contrastive forces. Lyotard who has had a Marxist background tends to look at the society from the glasses of the second concept but under the influence of Wittgenstein understands it in terms of language games.

According to Lyotard (1979), national societies would disappear but not toward the appearance of a grand and global society, rather toward an atomization. In other words, by the disappearance of national societies, individuals would contribute in small communities and a language game of rivalry would appear among them. The information age itself is one of the important backgrounds for this atomization because the individuals, having access to universal information, are not under the control of governments of national societies. This background is suitable for the emergence of small communities as rivals. These small communities, as rivals to each other, would provide new ideas. What is referred to by some authors (Turkle 1996; Abbott 2001) as 'virtual communities' within the sphere of communication networks is understood by Lyotard in this way.

According to this view, Lyotard regards the consensus and harmony at the global level as an illusion. In his 'Postmodern Fables' (1993b), he supposes that there is a megapolice at the level of the globe. In this situation, all people have their own rights and all their needs are satisfied. However, Lyotard regards this situation as a 'dystopia', rather than a utopia, on the ground that there is no an 'other' in it. According to him, for this situation to exist, it is needed to be a private 'second existence' and a 'silence': "If humanity does not *preserve the inhuman region* in which we can meet this or that which completely escapes the exercise of rights, we do not merit the rights that we have been recognized. Why would we have the right to expression if we had nothing to say but the already said? And how can we have any chance of finding how

to say what we know not how to say if we do not listen at all to the silence of the other within? *The silence is an exception to the reciprocity of rights, but it is its legitimation*. The absolute right of the 'second existence' must be well recognized, since it is that which gives the right to rights. But as it escapes rights, it must always be content with an amnesty." (Lyotard 1993b, 1997, pp. 121-122)

He uses the concept of 'silence' where there is a necessary and important thing to be said while it is not expressible. In such situations, the silence is itself an 'other' and a rival for what is being said. According to Lyotard, in the megapolice there should be a silence prior to the expression of rights and without that it would be senseless to talk about rights. He regards this silence as the source for the legitimation of the rights discourse.

Lyotard regards silence and attention to the private inner 'other', which is different from the climate of megapolice, as a background for legitimation of the discourses of rights. Thus, his 'différend' (Lyotard 1983), referring to an incommensurable difference, is present in the megapolice and is regarded as the condition for identity and rights.

In this way, Lyotard seeks the legitimacy of knowledge not in consensus but in difference and contrast. That is why he says that the postmodern science is going to change the meaning of knowledge. In this sense, knowledge does not deal with certainty, rather with providing doubts in what is already known. 'Paralogy', referring to breaking the unified logic for knowledge, can account for legitimacy of knowledge. This is because it provides the background for creativity of individuals and groups in a just way. Justice, as it is understood by Lyotard, is also based on difference. That is to say, the plurality of different groups should be accepted and respected (Lyotard 1979).

## **Globalization and education**

Epistemological and social challenges of globalization will have considerable implications and effects on education. This is

because education has intense relations with both categories of knowledge and society.

Loytard's view on externalization of knowledge due to the information revolution leads him to the conclusion that knowledge has no longer an inner significance for Bildung or education. In other words, when knowledge is reduced to quantitative information, it would have only a value in terms of benefits.

In what follows, the challenges of globalization for education along with the suitable treatments with them will be discussed.

### **1. Recognition of different types of knowledge**

The first point is that knowledge should not be reduced to information or the statements that could only be true/false. Lyotard himself has tried to provide a richer conception of knowledge against the reductive tendency of informational knowledge.

According to Lyotard, knowledge refers to a capacity that shows different functions in relation to different types of discourse like descriptive, prescriptive, and evaluational ones. He emphasizes that knowledge is not limited to using the criteria of truth, rather it also deals with the criteria of efficiency, justice and/or happiness, beauty and the like (Lyotard 1979).

In other words, it could be said that Lyotard replaces the equation (knowledge = information) with the equation (knowledge = wisdom). When knowledge is considered as wisdom, what is meant is a suitable treatment with the situation concerned. The suitable treatment with a proposition will be an evaluation of it in terms of truth/falsity, whereas in the case of a practical situation, justice and virtue would concern us and in an aesthetic situation the appreciation of a piece of art work is required. Given such a wide meaning of knowledge, the duty of education could be regarded as the cultivation of knowledge capacity during which the capability of suitable treatments with different situations is to be developed.

## **2. Cultivation of imagination and creativity**

In the information age, the access to different kinds of information becomes available for every one. Thus, 'the death of teacher' appears as a challenge to education. This challenge threatens education because the traditional role of teacher has been the transformation of information.

The suitable treatment with these challenges is to redefine the role of teacher. In fact, education should attempt, particularly through the teacher, to provide for the pupils the ability of organizing and reorganizing information and suggesting new combinations of information and ideas. This requires that cultivation of creativity be regarded as one of the ideals of education.

Lyotard (1979) believes that in the information society, the language game is the game of complete information, that is to say, everyone knows everything and in this way communicates with others. In this state, imagination shows its important role. When everyone knows everything, it is only imagination that could provide new movements or rules for play. In this way, seeking the unknown becomes an ideal for education.

## **3. Extending intersubjective studies**

A further strategy for extending knowledge in the information age is to provide interdisciplinary studies. Seeking possible relationships among different subjects or disciplines can provide new horizons for thinking.

Referring to this point, Lyotard (1979) says that the transformation of knowledge should not be limited to information transformation, rather it should include all processes and procedures that can increase the individual's ability in providing relationships among the realms and disciplines that are separated from each other by the traditional system of knowledge.

By providing relations among the disciplines, Lyotard means a horizontal, rather than a vertical, relationship. He gives the system

of Berlin University in Germany in which philosophy is regarded at the top point of the pyramid of knowledge. Lyotard's post-modern tendency requires that a vertical relationship is avoided on the ground that it leads to providing meta-narratives and undermining the plurality of the realms that have some autonomy from each other.

#### **4. Connecting virtual communities to real communities**

As mentioned above, in addition to knowledge, the development of society in the globalization era leads also to challenges for education particularly because knowledge has a basic social feature. Thus, the notion of virtual community will have educational consequences. In addition, this notion leads to the notions of virtual self and virtual identity that have educational significances (Turkle 1996; Abbott 2001). In fact, to have a relationship with each virtual community puts the individual in a certain atmosphere of knowledge and this atmosphere, parallel to its intellectual content, provides a certain type of identity.

Since the individual, particularly in the age of adolescence, is in the process of identity formation, the kinds of his or her relationships with virtual communities could lead to virtual identity formation. With regard to this kind of identity, some (e.g. Gergen 1991) have talked about the postmodern self.

Virtual communities could have threats for the educational process. Without doubt these communities have advantages in providing different new relationships and a kind of society with certain plasticity. However, these communities would have their own disadvantages in providing fragmentation in identity. Postmodernists, including Lyotard, might not be in agreement with a unified notion of identity parallel to their disagreement with a unified human nature.

However, from an educational point of view it is important to regard a particular position for the coherence of identity. Even though minor inner conflicts are necessary for seeking coherence, the overall fragmentation in identity is not educationally desirable.

A strategy for dealing with this possible threat could be sought in providing connections between virtual and real communities. While in the virtual communities there is a wider range for identity variations, like taking the role of the opposite gender during an internet chat, in the real communities this variation has a limited and more realistic range. A good balance between taking part in virtual and real communities can prevent the pupils from fragmentation of identity. The connection between virtual and real communities should be dynamic, that is to say it must be possible within the real communities to talk about what goes on within virtual communities. The pupils should be able to talk about their communications within the virtual communities. The characteristics of real communities like shame provides the ground for controlling the undesirable variations of identity.

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