

# Determining the Relationship of Icebreakers with Principles of Learning and Teaching

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*Abstract:* - The occurrence of COVID pandemic has forced higher education institutions to adopt online teaching. A recent study has found that a vast majority of students find online teaching less motivating than face-to-face environments. Icebreakers are activities designed to “break the ice”, energize/re-energize students, and create an interactive environment among teachers and students. This research is aimed at providing a link between icebreakers and re-energizers and teaching and learning models. The purpose of this research is to encourage teachers, especially those dealing with adult learners, to develop their theoretical understanding for effective implementation of icebreakers in class and provide a link between teaching methodologies and icebreakers. The nature of this study is review-based and relies upon previous research. During the evaluation of this research, mapping between teaching perspectives, UKPSF dimensions, and the ripples’ model was developed. Moreover, different perspectives on the design of a student-centered learning environment were also identified. Based on this research, it was detected that there is a need to conduct further studies that can quantitatively measure the effect of icebreakers in fulfilling the learning goals. It is also essential to investigate whether the outcomes of ice-breaker activities can be linked with various aspects of teaching and learning. In this context, some authors have studied the effects of icebreakers on social interaction in online learning. However, their effects on other aspects of online teaching are still understudied. Based on the findings of this research, it is recommended that future research should be carried out on the design and employment of different ice-breaker activities in online classes and link them with the subject matter. The effects of these activities on student performance in assessment, class participation, and critical thinking must be investigated. Moreover, the current literature lacks the use of numerical and statistical analysis to support their results, which should also be taken into consideration.

*Key-Words:* - Icebreakers, adult education, learning and teaching perspectives, mapping, student-centered learning

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## 1 Introduction

The occurrence of COVID pandemic has forced higher education institutions to adopt online teaching. A recent study has found that a vast majority of students find online teaching less motivating than face-to-face environments, [1]. Addressing the issue of student motivation is extremely important for engineering courses, as students are supposed to be involved in providing design solutions to real-world problems. Icebreakers are activities designed to “break the ice”, energize/re-energize students, and create an interactive environment among teachers and students, [2]. These activities also help to polish students’ communication skills by allowing them to express their opinions, [3].

Students’ motivation and participation in the class is extremely important for their learning. In addition, creating a friendly environment in the class is helpful for active learning and cognitive skill development of students from different backgrounds, [4]. Icebreakers provide the opportunity to achieve the above goals for teaching and learning.

This research is aimed at providing a link between icebreakers and re-energizers and teaching and learning models. Such research is expected to encourage teachers at the higher education level to use icebreakers by highlighting the achievement of teaching objectives using icebreakers. The purpose of this research is to facilitate teachers, especially those dealing with adult learners, in developing their theoretical understanding for effective

implementation of icebreakers in class. Higher education has been restricted, for the most part, to online teaching for an extended period due to COVID-19. Hence, teachers must find effective ways to deliver subject material and create a collaborative environment during online classes. The current research will be a leading step towards achieving that goal.

## 2 Scope and Limitation

This research investigates the validity of the following hypothesis:

*“Icebreakers/re-energizers can be effective in enhancing student learning by increasing their class participation and persistence with the class activities.”*

This research is important to teachers and instructors in higher education since it focuses on adult education and addresses the issue of encouraging participation from students of various backgrounds in physical and online classes. The main limitation of this study is the absence of data through which results can be analyzed and validated. It has been recommended and planned for a future study which will be done by the author. The claims of this research have been supported by analyzing teaching principles found in the literature and suggesting icebreakers to address them. The main contribution/finding of this study is the establishment of a link between icebreaker activities for different teaching environments (online or physical) and their connection with principles for effective adult learning, social interaction methods of teaching, and the notion of the teacher as facilitator.

## 3 Icebreakers and Teaching Perspectives

Higher education, in the present era, is characterized by the aspect of diversity in adult learners in terms of their learning methods, preconceived notions of teaching, and commitment to class participation, which is also emphasized by, [5]. This aspect is linked with the UK Professional Standards Framework (UKPSF) dimensions of (diverse learners), V2 (equal opportunity of participation), and K3 (learning abilities of students), see Fig. 1 for more details about UKPSF dimensions. The UK is considered a leader in terms of standardization of higher education which is supported by the research done in part, [6]. At the time of the study, there was a lack of literature related to the use of icebreakers

for adult education. Hence, this research was carried out to fill this gap and to support educators in applying icebreakers as part of their daily instructional activities.

This research revolves around the definition of teaching perspectives for adult education and their link with ice-breaker activities. The use of term “teaching perspective” is also interchangeably used with other terms in education literature for defining different aspects of teaching; “methods”, “strategies”, “approaches”, and “pedagogies”, [7], [8]. Teaching perspective can be defined as “a unique constellation of actions, intentions, and beliefs”, [2]. Based on this definition and integrating it with the other terms used in the literature, it can be said that perspective is related to the aim of teaching that one is trying to ascertain with his/her students. According to Chulp and Collins [2], there are five perspectives of teaching, as shown in Table 1. It is also important to link the teaching perspectives with the well-known models of teaching such as UKPSF and the ripples model given by Race, as shown in Fig. 2, [9]. Therefore, a mapping of teaching perspectives with the UKPSF dimensions and factors for successful learning was carried out which is shown in Table 1.

Table 1. Mapping of Teaching Perspectives with UKPSF and Factors for Successful Learning

Perspective	UKPSF Dimension	Factor
Transmission: Delivery of content	A1, A2, K1, K2	Verbalizing, vocalizing
Apprenticeship: Ways of being	A3, V2	Learning by doing
Developmental: Ways of thinking	A4, K3	Wanting/needing Making sense
Nurturing: Self-efficacy	A2, A4, K3	Assessing
Social Reform: A Better Society	V4, K6	Wanting/needing

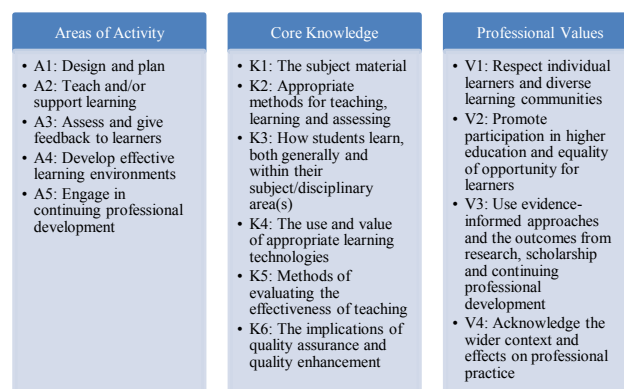


Fig. 1: UKPSF Framework (adopted from [10])

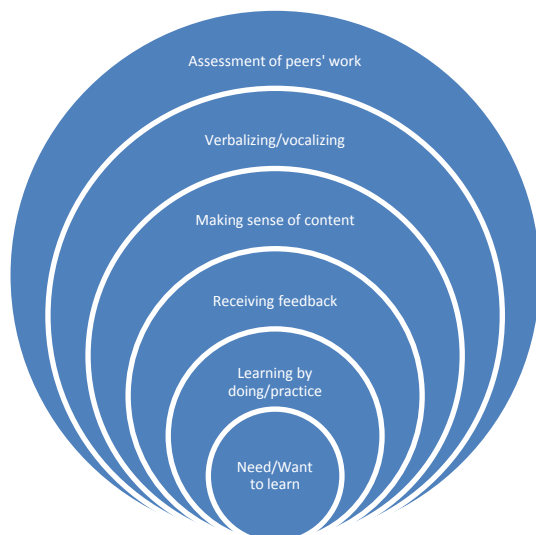


Fig. 2: Ripples' Model (adopted from [9])

It is important to note the fact that a one-size model for teaching practices may not be applicable in all contexts, which further justifies the need for mapping presented in Table 1. The variance in teaching models and learners and educators leads to two important questions:

1. Selection of icebreakers
2. Design of icebreakers

The first aspect can be linked with the student-centered learning approach while the other one is shown to improve the student learning experience. These linkages have been presented in detail in the proceeding sections.

### 3.1 Student-Centered Learning

The selection of icebreaker activities should be based on factors related to social interaction including safety, sound relationships, respect for learners as decision-makers, teamwork, engagement, and accountability. According to, [2], social interaction is vital for student-centered learning. However, other studies have presented various other aspects related to student-centered learning. The authors in, [11], have identified the following factors of student-centered learning from the student's perspective:

- a) Developing student ownership
- b) Achieving personally meaningful learning goals
- c) Learning autonomously
- d) Generating artifacts aimed at authentic audiences

Another important issue related to student-centered learning is the design of activities that should incorporate challenging, real-life tasks, with technology as a tool for learning, communication, and collaboration, according to, [12]. Therefore, it

can be said that the two main aspects of icebreakers are related to student-centered learning and providing a suitable learning environment to facilitate it. Both aspects must be addressed by the instructor.

### 3.2 Enhancement of Learning

To use icebreakers and re-energizers as a tool to enhance student learning instead of just improving the classroom environment, the design of activities is important. The study, [13] mentioned that the icebreaker activities can be used at different times during the session to enhance learning and encourage students to participate, however, they did not provide any statistical or mathematical evidence to prove this aspect. However, there are other articles to support the use of icebreakers for attaining learning outcomes, as mentioned below. The study, [3], employed icebreakers to improve the speaking ability of English language class students and found them to be useful. Another example of evidence of using icebreakers for learning is given by, [5], who presented the case of a physics teacher employing icebreakers to improve student learning.

## 4 Discussion

This research paper highlights the benefit of the use of icebreakers as a tool for enhancing learning and provides its link with teaching perspectives and aspects of student-centered learning. In this sense, this research goes against the common belief that ice-breakers are primarily used for improving the interaction of class members, [14]. Therefore, this aspect should be further investigated with the application of icebreakers in online classes to collect evidence related to its effectiveness for learning in them.

The current research also provides insight into teaching perspectives, which are different from the well-known models of teaching and learning. This will help to broaden my knowledge base and enable their use for designing course contents and teaching methodologies from a different aspect.

From the literature reviewed in this research, a list of icebreaker activities was prepared which is shown in Table 2. These activities are recommended to be used in different environments (online and physical). Further details and evidence of their use can be found in the references cited with the activities. It is expected that it will be helpful for instructors to select icebreakers that can promote participation from students who are from diverse backgrounds.

Table 2. Ice-Breaker Activities

Activity	Reference	Environment	
Learning theatre	[5]	Online/Physical	
Post it notes	[15], [16]	Online	
Human web	[17]	Physical	
Significant event	[15]	Online/Physical	
What's your wish	[18]	Online/Physical	
Share your uniqueness	[19]	Online/Physical	
Post your experience with a short comment		Online	
Stop, Start, Continue	[15]	Online	
Learning cells	[20]	Online/Physical	
Reading stories	[3]	Online	
Silent reflection	[21]	Online	
Rounds		Physical	
3-minutes each way		Online	
Buzz groups		Physical	
Brainstorms		Online	
Syndicates		Physical	
Snowballing/Pyramiding		Physical	
Fishbowls		Physical	
Crossovers		Physical	
Electronic voting system		[22]	Online
Board games		[23]	Online
Extended introduction	Physical		
Audio-lingual Method (ALM)	[7]	Physical	
Communicative Language Teaching (CLT)		Online	
Interactive maps	[14]	Online	
Animated presentations			
Youtube playlists			
Virtual pinboard			
Comic strip			

The mapping of teaching perspectives with UKPSF and Ripple's model, shown in Table 1, is not found in the literature. It was done to encourage teachers and instructors to use icebreakers with a broader scope to cover subject matter, instead of just focusing on items of general knowledge and interest (such as songs, stories, events, etc.).

Authors, mentioned in Table 2, have recommended a list of icebreakers, supposedly from "experience" but there is a lack of quantitative evidence to support their claims of their effectiveness in supporting student-centered learning. Therefore, this research tried to find a link between the recommended methods and other sources of literature to design and adopt class activities based on evidence, rather than judgment.

## 5 Conclusions and Future Directions

This research was aimed at providing a link between icebreakers and re-energizers and teaching and

learning models. The literature review was used to create a mapping between the icebreakers and teaching methodologies. These linkages were also made with the well-known teaching models implemented worldwide.

After the review, it was found that the literature is available to illustrate the fact that icebreakers can be used to enhance student participation and learning. However, it lacks the evidence to justify their claim quantitatively or subjectively. Therefore, it may be used as a stepping-stone for future studies and can be used as a basis for changes in teaching practice. During this research, a mapping was developed between teaching perspectives, UKPSF dimensions, and the ripples' model. Moreover, this research was able to identify different perspectives for the design of a student-centered learning environment. It was also found that icebreakers have been used in online and physical learning environments, even before the COVID-19 pandemic. With the advancements in artificial intelligence, it is possible to implement icebreakers within a gaming environment. The use of gaming activities has also been proven effective in strengthening the class environment.

Based on this research, it is detected that there is a need to conduct further studies that can quantitatively measure the effect of icebreakers in fulfilling the learning goals. It is also essential to investigate whether the outcomes of ice-breaker activities can be linked with various aspects of teaching and learning. In this context, [13], have studied the effects of icebreakers on social interaction in online learning. However, their effects on other aspects of online teaching are still understudied.

Therefore, it is recommended to direct future research to determine the effects of icebreakers on different aspects of teaching in the online environment. Wherein, icebreaker activities should be designed and employed in online classes and linked with the subject matter. It is essential that the effects of these activities on student performance in assessment, class participation, and critical thinking should be investigated using well-established statistical and numerical analysis. Another possible direction of research could be the determination of the effectiveness of gaming-based icebreakers and their counterpart activities.

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**Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)**

Uneb Gazder solely contributed to the present research, at all stages from the formulation of the problem to the final findings and solution.

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**Conflict of Interest**

The author has no conflicts of interest to declare.

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