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European Centre for the Development
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University
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Tomas Bata University

INFORMAL LEARNING: four measurement shortcomings and potential ways forward

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OVERVIEW

1. Intentionality of informal learning
2. Fuzzy boundaries within the triadic classification
3. Individual versus social informal learning
4. Informal learning through human – machine interaction



OECD Skills Studies

Giving Informal Learning the Recognition it Deserves



ADULT EDUCATION SURVEY – IFL QUESTION

Question measuring engagement with informal learning in the Eurostat Adult Education Survey (AES) 2023

‘During the past 12 months, have you deliberately tried to learn anything on a particular topic or area, or are you currently doing it.’

Respondents are then presented with five informal learning activities and can indicate “yes” or “no” for each of them.

- (1) Learning from a family member, a friend or a colleague*
- (2) Learning by using printed material (books, professional magazines, etc.)*
- (3) Learning by using electronic devices (online or offline)*
- (4) Learning by guided tours in museums, historical or natural or industrial sites*
- (5) Learning by visiting learning centres (including libraries).*

1. INTENTIONALITY

Classification of Learning Activities 2016 Eurostat Manuals and Guidelines

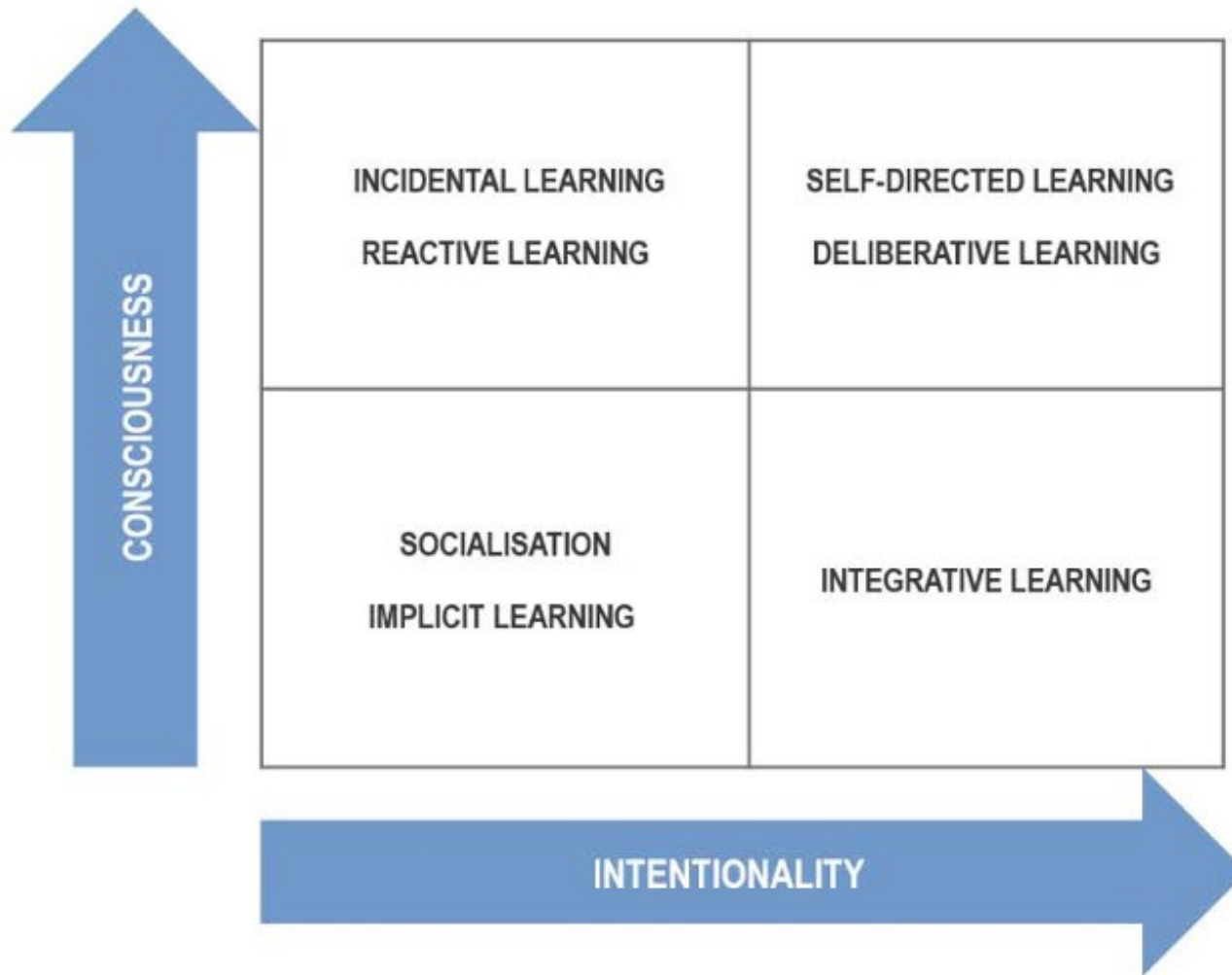
Table 2. Attributes of education and learning activities.

Criterion	FAE	NFE	IFL
A1. Intention to learn	X	X	X
A2. Organisation	X	X	
A3. Institutional framework and location	X	X	
A4. Hierarchy level-grade structure ("ladder")	X		
A5. Admission requirements	X		
A6. Registration requirements	X	(X)	
A7. Teaching/learning methods (predetermined/not flexible)	X	X	(X)
A8. Duration of at least one semester (minimum of 30 ECTS)	X		
A9. Recognition of the programme by the relevant national education or equivalent authorities	X		

Source: Adapted from (CLA, 2016, p. 16).

Kalenda, J., & Boeren, E. (2025). Revisiting the triadic classification of learning activities: rethinking their measurement. *International Journal of Lifelong Education*, 44(3), 257-272.

1. INTENTIONALITY



Requiring intentionality of learning represents a mis-alignment with theory

Schugurensky (2000): tripartite

Bennett (2014): integrative learning

Role of tacit knowledge

Realisation of learning outcomes in due course

OECD (2016). Giving informal learning the recognition it deserves. Paris: Centre for Skills – p.89

AES question informal learning

During the past 12 months, have you **deliberately** tried to learn anything on a particular topic or area, or are you currently doing it

1. INTENTIONALITY

MEASURING PARTICIPATION! HOW MANY?



Learning and Work Institute (L&W)

Adult Participation in Learning (APiL)
Survey 2005

*“Can I just check whether there is anything
(else) that you have tried to learn or teach
yourself in the last 3 years?”*

Table 1: Descriptive statistics of the working sample (N=4,338)



	N	% (unweighted)	% (weighted)
Dependent Variables			
<i>APiL Participation</i>			
No	2,704	62.3	60.4
Yes	1,564	36.1	38.1
Don't Know	70	1.6	1.6
<i>Corrected Participation</i>			
No	2,200	50.7	48.8
Yes	2,068	47.7	49.7
Don't Know	70	1.6	1.6
<i>Participation Groups</i>			
Non-participants	2,200	50.7	48.8
Recalled participants	504	11.6	11.6
APiL participants	1,564	36.1	38.1
Don't Know	70	1.6	1.6

The role of **prompting**

2. FUZZY BOUNDARIES

Measurement continues to follow the categorical triadic classification
FORMAL – NON-FORMAL - INFORMAL

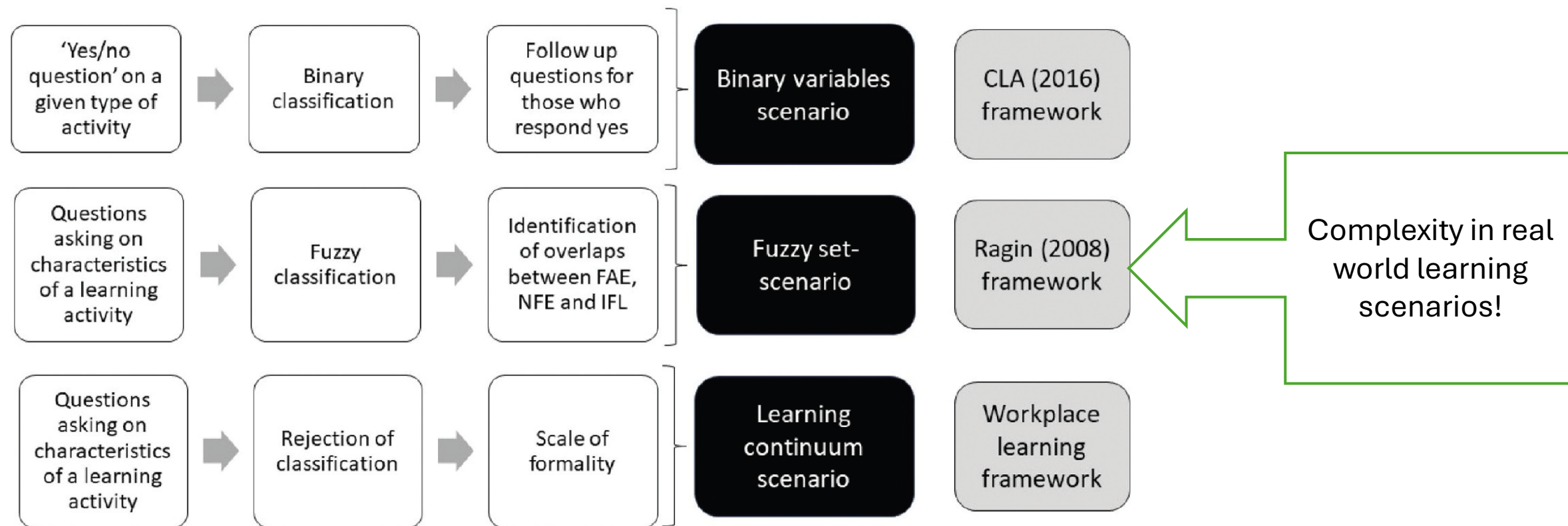


Figure 1. Difference in operationalisation of learning activities between the current approach and alternative scenarios.

Kalenda, J., & Boeren, E. (2025). Revisiting the triadic classification of learning activities: rethinking their measurement. *International Journal of Lifelong Education*, 44(3), 257-272.

2. FUZZY BOUNDARIES

Table 4. Attributes for identifying membership in learning activities.

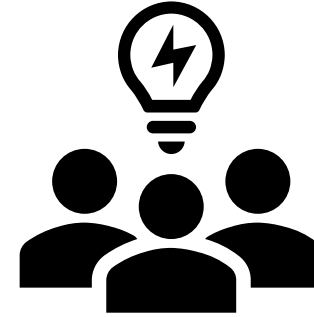
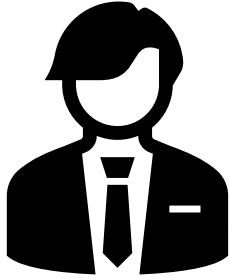
Set I. Overlap between FAE and NFE		Set II. Overlap between NFE and IFL		Set III. Overlap between intentional IFL and non- intentional IFL	
Attribute of learning activity	Degree of membership	Attribute of learning activity	Degree of membership	Attribute of learning activity	Degree of membership
A4. Hierarchy level-grade structure ("ladder")	1–0	A2. Organisation	1–0	A1. Intention to learn	1–0
A5. Admission requirements	1–0	A3. Institutional framework and location	1–0		
A6. Registration requirements	1–0	A7. Teaching/learning methods (predetermined/not flexible)	1–0		
A8. Duration of at least one semester (minimum of 30 ECTS)	1–0				
A9. Recognition of the programme by the relevant national education or equivalent authorities	1–0				

*Guided, so
someone
organised it?*

AES question informal learning
Learning by **guided tours** in museums,
historical, or natural, or industrial sites

Kalenda, J., & Boeren, E. (2025). Revisiting the triadic classification of learning activities: rethinking their measurement. *International Journal of Lifelong Education*, 44(3), 257-272.

3. INDIVIDUAL VERSUS SOCIAL



Individual	Learning from and with others
Learning through self-reflection on tasks and activities	Learning through collaboration and teamwork
Learning through reading professional literature, magazines and newspapers	Learning through observing peers and role models
Learning through searching for relevant information online	Learning through interaction, group reflections and feedback

OECD (2016). Giving informal learning the recognition it deserves. Paris: Centre for Skills – p.87

AES questions informal learning

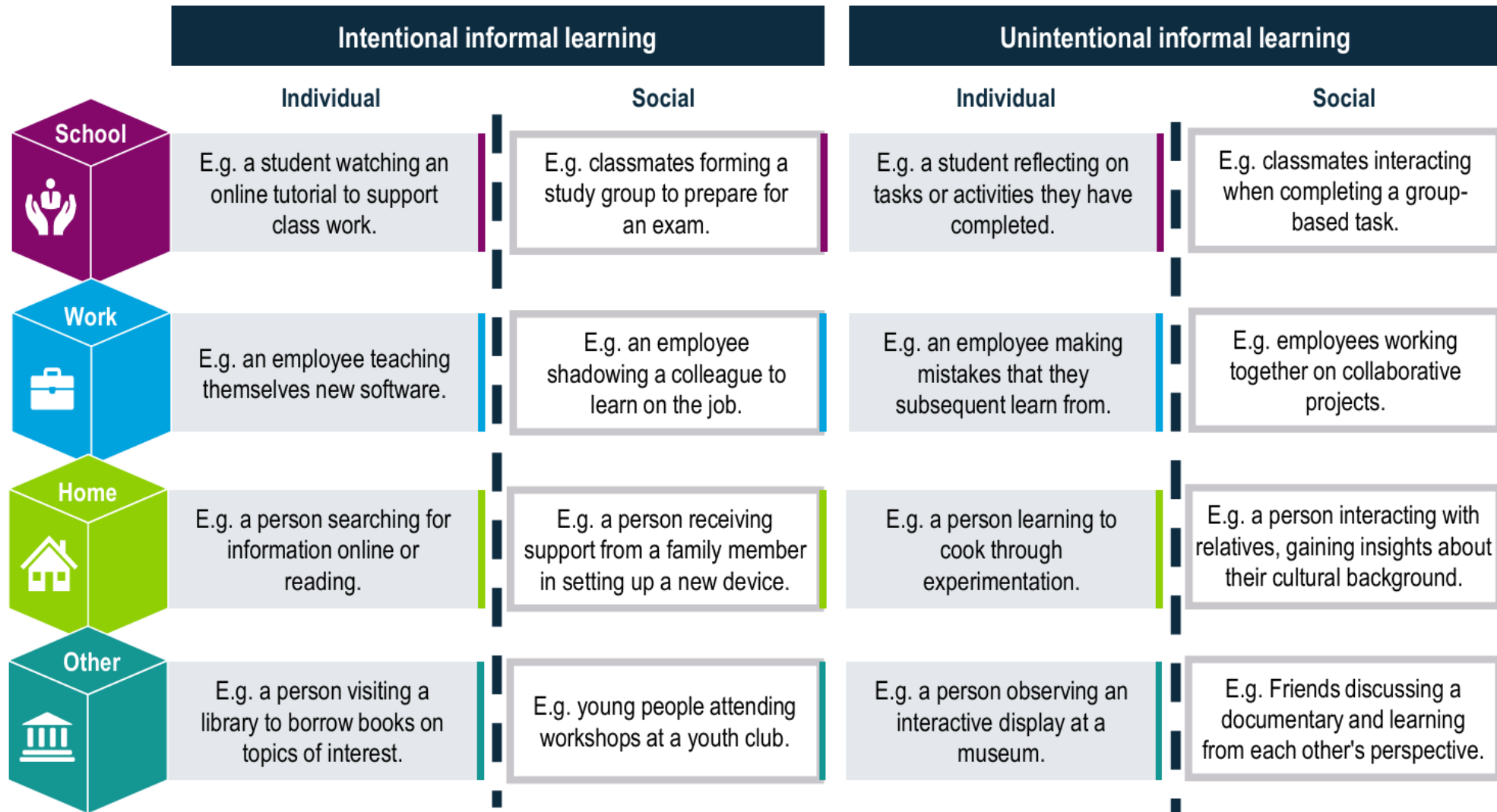
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- (5) Learning by visiting learning centres (including libraries).*

*With whom?
Where?
For what purpose?*

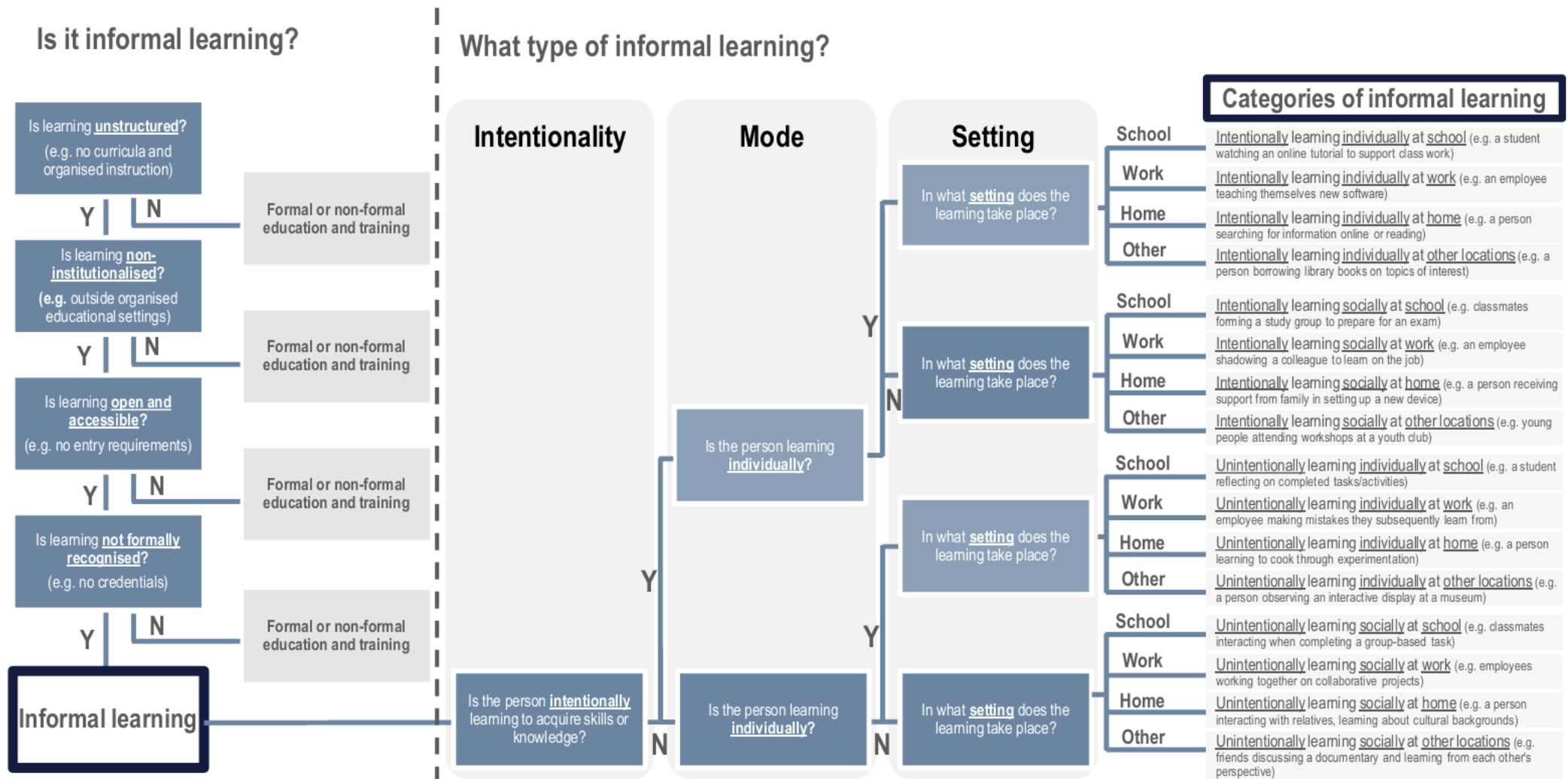
GRANULARITY!!!



3. INDIVIDUAL VERSUS SOCIAL



3. INDIVIDUAL VERSUS SOCIAL



4. HUMAN – MACHINE INTERACTION

The CLA is employed to operationalise participation in formal, non-formal, and informal learning activities within the AES. As outlined in Chapter 3, the CLA defines informal learning as intentional, a feature made explicit in the AES through the reference to “deliberate learning” in its survey question on informal learning engagement:

‘During the past 12 months, have you deliberately tried to learn anything on a particular topic or area, or are you currently doing it.’

Respondents are then presented with five informal learning activities and can indicate “yes” or “no” for each of them.

- (1) Learning from a family member, a friend or a colleague*
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4. HUMAN – MACHINE INTERACTION

INTERNATIONAL JOURNAL OF HUMAN–COMPUTER INTERACTION
2024, VOL. 40, NO. 23, 8091–8106
<https://doi.org/10.1080/10447318.2023.2278283>



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AI in the Workplace: Examining the Effects of ChatGPT on Information Support and Knowledge Acquisition

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ABSTRACT

The rapid development and widespread adoption of artificial intelligence (AI) systems like ChatGPT in the workplace underscores the need for a comprehensive understanding of their implications on worker productivity, learning, and the determinants of their usage. This study elucidates the antecedents and outcomes of using ChatGPT among workers, employing a sample size of 351 participants across various industries, aged between 20 and 40. Structural equation modeling (SEM) was employed for the analysis, providing a robust perspective on the relationships between variables. The study discovered that perceived intelligence and self-learning of ChatGPT hold significant positive associations with information support and knowledge acquisition, both of which further influence the utilitarian benefits perceived by users, thereby shaping their intention to use ChatGPT. Utilitarian benefits were found to significantly enhance the intention to use ChatGPT but did not directly impact its actual usage. The intention to use ChatGPT, however, was found to positively correlate with its actual use. Among demographic factors, gender and age were identified as significantly influencing actual use, whereas the industry of users did not hold a significant impact. With these findings, this study offers a more profound understanding of how AI systems like ChatGPT can contribute to workplace productivity, and presents strategic insights for practitioners looking to effectively implement these technologies.

KEYWORDS

ChatGPT; information support; knowledge acquisition; utilitarian benefits; technology adoption

4. HUMAN – MACHINE INTERACTION

Kalenda team Survey Czech Republic

Diversification

INDIVIDUAL

SOCIAL

OFFLINE

ONLINE

		Total	Gender		Age			Education			Work status	
		All	Men	Women	25–44	45–54	55–64	ISCED 0–2	ISCED 3–4	ISCED 5–8	Working	Not working
Diversification	Individual leisure activities (self-taught)	27.2	28.0	26.6	34.7	23.1	17.5	14.4	27.3	32.2	28.0	22.4
	Family and friends	12.8	10.2	15.0	13.4	12.6	11.8	6.1	14.5	11.3	12.7	13.3
	Colleagues and people at work	29.9	29.2	30.5	34.2	27.3	24.5	11.4	28.4	41.1	34.0	3.0
	People met through hobbies, volunteering, clubs	14.1	13.8	14.3	16.4	12.9	10.8	5.3	14.5	16.6	13.3	18.8
	People online (forums, social media)	28.6	25.8	31.1	35.1	23.7	21.7	12.1	27.9	37.1	28.3	30.9
	Printed materials (books, journals)	34.8	31.3	37.8	36.3	30.3	36.6	14.4	31.7	50.3	35.3	31.5
	Television and radio	7.8	7.3	8.2	7.1	7.8	8.9	4.5	8.0	8.6	7.7	7.9
	Educational platforms (e.g., LinkedIn Learning)	11.6	12.3	10.9	13.1	11.1	9.2	6.1	9.4	19.0	12.7	4.2
	Online content (podcasts, videos, texts)	36.1	38.1	34.3	43.2	29.7	29.3	14.4	33.4	51.2	36.8	30.9
	Apps or other software (e.g., Duolingo)	23.6	21.8	25.2	25.9	26.1	16.6	7.6	22.2	33.4	25.0	14.5
	AI chatbots (e.g., ChatGPT, Claude)	24.4	25.6	23.4	31.7	20.7	14.6	6.1	24.1	32.5	25.7	16.4
	Guided tours of historical or natural sites	10.8	10.9	10.6	9.7	13.2	10.2	3.8	9.0	17.8	11.2	7.9

45+

30

15

0

% of all respondents using the source

4. HUMAN – MACHINE INTERACTION

Kalenda team Survey Czech Republic

Diversification

Learners use a multitude of resources.

Learners are building ‘*repertoires*’ rather than consult sources in isolation

E.g. 28.8 percent of informal learners use ‘online’ content *in combination with* ‘printed’ materials



KEY TAKE AWAY MESSAGES

1. AES measurement starts from intentionality of learning, against theoretical knowledge
2. AES continues to treat formal, non-formal and informal as distinct despite fuzzy boundaries between them
3. AES does not explicitly diversify between individual and social learning, neither does it spell out learning settings or purposes for learning
4. AES does not diversify between distinct sources of human-computer interaction

Consequences and Risks

Potential underestimation of engagement with informal learning → **PROMPTING**

Loss of granularity on 'with whom', 'where', and 'for what purpose' → **REPORTOIRE APPROACH**

Risk of data becoming rapidly outdated → **ADAPTABILITY VERSUS COMPARABILITY OVER TIME**



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THANK YOU!

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