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## ارزیابی کیفیت آموزش با تکنیک MCDM فازی

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Rezazadeh \_jobmail@yahoo.comEmail: \*

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MCDM

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<sup>1</sup> student's Evaluation of Educational quality (SEEQ)

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$$\alpha = /$$

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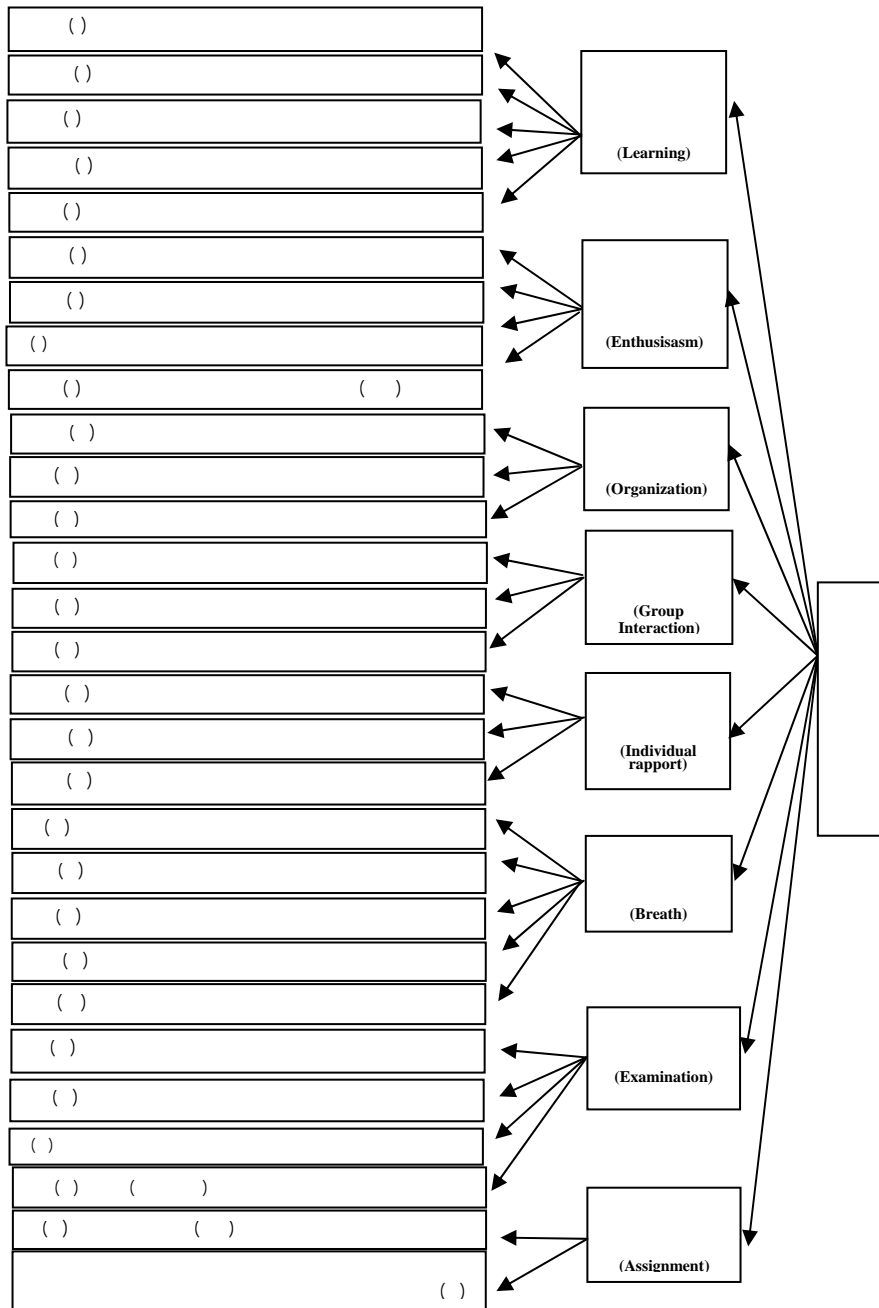
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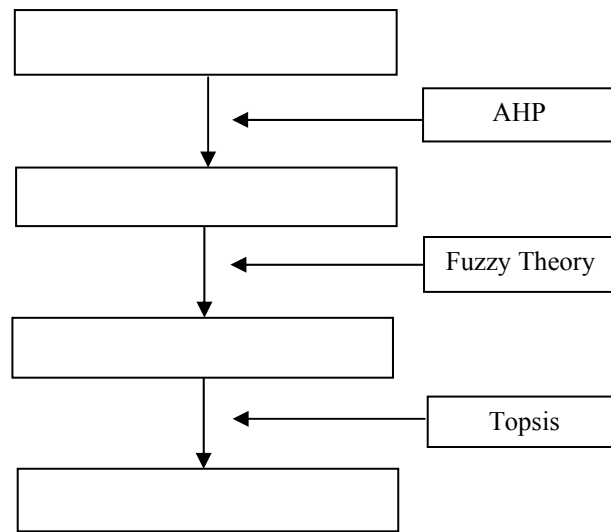
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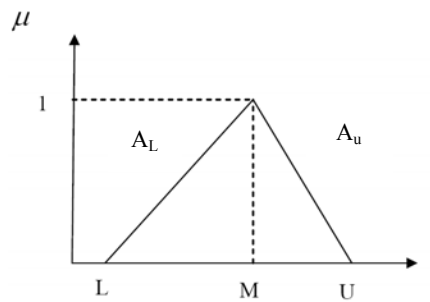
<sup>1</sup> Linguistic

$$R \quad \mu_A(x) \quad A \quad ( )$$

$$\mu_A(x) = \begin{cases} \frac{x-L}{M-L} & L \leq x < M \\ 1 & X = M \\ \frac{X-L}{M-u} & M < x \leq U \end{cases} \quad ( )$$

$$A_u \quad D(M,1) \quad [L,U](-) \quad A_L \quad ( )$$

$\mu_A(x)$  (L, M, U)



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$$A = (L, M, U)$$



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$$A(\quad) = (\quad)$$

A

(M)

(U)

(L)

(U)

(L)

(M, U)

(L, M)

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$$(\quad)$$

$$E_{ij}$$

$$E_{ij} = (1/m) \square (E_{ij1} \oplus E_{ij2}, \dots, \oplus E_{ijm}) \quad ( )$$

$$\vdots \quad E_{ij}$$

$$E_{ij} = (LE_{ij}, ME_{ij}, UE_{ij}) \quad ( )$$

$$E_{ij}$$

$$LE_{ij} = \left( \sum_{k=1}^m LE_{ij}^k \right) / m \quad ( )$$

$$ME_{ij} = \left( \sum_{k=1}^m ME_{ij}^k \right) / m$$

$$UE_{ij} = \left( \sum_{k=1}^m UE_{ij}^k \right) / m$$

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$$d(u,0) = \frac{2M+U+L}{4} \quad ( )$$

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$$d(u,0) = \frac{(U-L)+(M-L)}{3} + L \quad ( )$$

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(A<sup>-</sup>)

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<sup>1</sup> Defuzzification  
<sup>2</sup> crisp  
<sup>3</sup>  $\alpha$ - cut  
<sup>4</sup> center-of-Area  
<sup>5</sup> Topsis  
<sup>6</sup> compromising

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$$n_{ij} = \frac{r_{ij}}{\sum_{i=1}^m r_{ij}^2} \quad ( )$$

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r<sub>ij</sub>

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$$V = ND.Wn*n \quad ( )$$

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ND

Wn\*n

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(A-)                      (A+)

$$= A^+ = \{(\max V_{ij} | j \in J), (\min V_{ij} | i \in J' | i=1,2,\dots,m)\} \quad ( )$$

$$= \{V_1^+, V_2^+, \dots, V_j^+, \dots, V_n^+\}$$

$$= A^- = \{(\min V_{ij} | j \in J), (\max V_{ij} | i \in J' | i=1,2,\dots,m)\} \quad ( )$$

$$= \{V_1^-, V_2^-, \dots, V_j^-, \dots, V_n^-\}$$

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$$J = \{j=1, 2, \dots, n | \quad j \}$$

$$J' = \{j=1, 2, \dots, n \mid \quad \quad \quad j \}$$

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$$d_i^+ = \quad i \quad = \sqrt{\sum_{j=1}^n (V_{ij} - V_j^+)^2}, \quad i=1, 2, \dots, m \quad ( )$$

$$d_i^- = \quad i \quad = \sqrt{\sum_{j=1}^n (V_{ij} - V_j^-)^2}, \quad i=1, 2, \dots, m \quad ( )$$

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$$CL_i^+ = \frac{d_i^-}{(d_i^+ + d_i^-)}, \quad 0 \leq CL_i^+ \leq 1, \quad i=1, 2, \dots, m \quad ( )$$

CL\_i^+ :



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$$d(U_1,0) = \frac{2M + U + L}{4} = \frac{2 \times 55 + 71.25 + 41.88}{4} = 55.78$$

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11. Student Evaluation of Educational Quality (SEEQ). (1976). Herbert W. March, Prepared by: The CBT Team in UTS and CELT.