



HvradU ahVno AU` ` ZnVvA` m AZv` dnVZ PnbboAU` ` Z hon[aUm\_H\$maH\$ d {MaH\$nb {OH\$Umao AgVo

gh^mJr AU` ` Z ahUOoParticipatory Learning hno . hm eäX Participatory ` m B\$Or eäXmnngyZ V` na Pnbm Anho Participation ahUOo the action of taking part in activities and projects; the act of sharing the activities of group. ahUOM, EI nUm {H\$ oÜ` o qH\$dm àH\$enm\_Ü` o gh^mJr hnd` nMr HVr VgM JOm\_Ü` o {d(ei> {H\$ m {d^mJZ H\$E` nMr HVr hno .

gfenVZ g\_n` Mo{dYmZ

Cf \_nÜ` {H\$ nVandarb Ordeni {df` nVrb {ZdSH\$ KOH\$gnR> gh^mJr-AU` ` Z nÖVtMm dma - EH\$ Aä` mg

gfenVZnMr C{ÖiOξo

1. B`Îmn 11 dr {dknZ eml H\$Srb Ordeni {df` nA` m {ZdSbe` m KOH\$A` m gX^mP nna[nfaH\$ AU` ` Z nÖVr d gh^mJr AU` ` ZnVrb àiZ\_Dfm nÖVr (Quiz method), {^ÎmnH\$ ghb nÖVr (Poster-tour method) An(U OJgm nÖVr (Jigsaw method) `nA` m\_Yrb n[aUm\_H\$maH\$VMr VbZm H\$aUo
2. ànV Pnbë` m {ZiH\$frZgna ` nÖz E` m KOH\$Zm {e\maer H\$aUo

gfenVZnMr JhVHé

1. {dÜni` nZmAU` ` ZngrR> {d{dY AU` ` Z nÖVtMr Andí` H\$m AgVo
2. B`Îmn 11 dr {dknZ eml Vrb Ordeni {df` hm nna[nfaH\$ AU` ` Z nÖVr d gh^mJr AU` ` ZnVrb àiZ\_Dfm nÖVr, {^ÎmnH\$ ghb nÖVr An(U {OJgm nÖVrZo {eH\$dVm `Vno

### gñnZ n[aH\$ñZm

1. B`Îm 11 dr {dknZ eml Vrb Ordenî {df`ngnR\$ nnañm[aH\$ AÜ``Z nÖVrnj m àíZ\_Öfñm nÖVr A{YH\$ n[aUm\_H\$ñH\$ RaVo
2. B`Îm 11 dr {dknZ eml Vrb Ordenî {df`ngnR\$ nnañm[aH\$ AÜ``Z nÖVrnj m {^ÎmñH\$ ghb nÖVr A{YH\$ n[aUm\_H\$ñH\$ RaVo
3. B`Îm 11 dr {dknZ eml Vrb Ordenî {df`ngnR\$ nnañm[aH\$ AÜ``Z nÖVrnj m {OJgnñÖVr A{YH\$ n[aUm\_H\$ñH\$ RaVo
4. B`Îm 11 dr {dknZ eml Vrb Ordenî {df`ngnR\$ àíZ\_Öfñm nÖVr d {^ÎmñH\$ ghb nÖVrZohññe`m {dÚmí`nA`m gñmKZm\_Ü`o\ \$aH\$ Agb.
5. B`Îm 11 dr {dknZ eml b\$S\$ b Ordenî {df`ngnR\$ àíZ\_Öfñm nÖVr d {OJgnñ nÖVrZohññe`m {dÚmí`nA`m gñmKZm\_Ü`o\ \$aH\$ Agb.
6. B`Îm 11 dr {dknZ eml b\$S\$ b Ordenî {df`ngnR\$ {^ÎmñH\$ ghb nÖVr d {OJgnñ nÖVrZohññe`m {dÚmí`nA`m gñmKZm\_Ü`o\ \$aH\$ Agb.

### eŷ n[aH\$ñZm

1. B`Îm 11 dr {dknZ eml b\$S\$ b Ordenî {df`mVrb KOH\$ñm nnañm[aH\$ AÜ``Z nÖVr AnfU àíZ\_Öfñm nÖVr\_ñ ohññe`m {dÚmí`nA`m gñmKZm\_Ü`m\_Ü`\_mZm\_Ü`o\ \$aH\$ AgUma Znhr.
2. B`Îm 11 dr {dknZ eml b\$S\$ b Ordenî {df`mVrb KOH\$ñm nnañm[aH\$ AÜ``Z nÖVr AnfU {^ÎmñH\$ ghb nÖVr\_ñ ohññe`m {dÚmí`nA`m gñmKZm\_Ü`m\_Ü`\_mZm\_Ü`o\ \$aH\$ AgUma Znhr.

3. B`Îmn 11 dr {dknZ eml b\$S\$rb Ordenî} {df` nVrb KOH\$Mo àîZ\_Orfm nÕVr d {OJgmî AU` `Z nÕVr\_wi o hnbJnè` m {dÚmî` nÀ` m g\$gnKZnÀ` m \_Û` \_nZm\_Û` o \S\$H\$ AgUma Znhr.
4. B`Îmn 11 dr {dknZ eml b\$S\$rb Ordenî} {df` nVrb KOH\$Mo àîZ\_Orfm nÕVr d {^ÎmnîH\$ ghb nÕVrZo AU` `Zm\_wi o hnbJnè` m {dÚmî` nÀ` m g\$gnKZnÀ` m \_Û` \_nZm\_Û` o \S\$H\$ AgUma Znhr.
5. B`Îmn 11 dr {dknZ eml b\$S\$rb Ordenî} {df` nVrb KOH\$Mo {^ÎmnîH\$ ghb nÕVr d {OJgmî nÕVrZo AU` `Zm\_wi o hnbJnè` m {dÚmî` nÀ` m g\$gnKZnÀ` m \_Û` \_nZm\_Û` o \S\$H\$ AgUma Znhr.
6. B`Îmn 11 dr {dknZ eml b\$S\$rb Ordenî} {df` nVrb KOH\$Mo àîZ\_Orfm nÕVr d {OJgmî nÕVrZo AU` `Zm\_wi o hnbJnè` m {dÚmî` nÀ` m g\$gnKZnÀ` m \_Û` \_nZm\_Û` o \S\$H\$ AgUma Znhr.

**g\$gnKZnÀ` n[a` nÀ`**

1. g\$gnKZ H\$niehmg {OèonVrb XYgmî a {dÚmîZHÖVZ d H\$Zö>\_hm{dÚmb` , {~Dr, Vm H\$ub, {O. H\$niehmg `Vrb B`Îmn 11 dr {dknZ eml b\$S\$rb Ordenî} {df` nÀ` m {dÚmî` nÀ`Vo`\_` n\$XV hnbVo
2. g\$gnKZ B`Îmn 11 dr {dknZ eml b\$S\$rb Ordenî} {df` nÀ` m 160 {dÚmî` nÀ`VM \_` n\$XV hnbVo
3. g\$gnKZ gh^mVr AU` `ZmVrb àîZ\_Orfm nÕVr, {^ÎmnîH\$ ghb nÕVr, {OJgmî nÕVr `m nÕVtnaVo`\_` n\$XV hnbVo
4. g\$gnKZ B`Îmn 11 dr {dknZ eml b\$S\$rb Ordenî} {df` nÀ` m Modification of Tap Root, Modification of Adventitious Root Modification of Underground

Stem, Modification of Sub-aerial Stem, Modification of Aerial Stem

KOH\$maVo\_`nXV hnlVo

5. gēnYZ ej {UH\$ df©2015-16 nVM \_`nXV Anho

**gēnYZMr \_`nXm**

1. gēnYZm\_Ü` o{dÜmi` nA` m gm\_n(OH\$ nVanMm {dMna Hōbom Znhr.
2. gēnYZm\_Ü` o{dÜmi` nA` m An(WP\$ nVanMm {dMna Hōbom Znhr.
3. gēnYZm\_Ü` o{dÜmi` nA` m ^pJn(OH\$ nVanMm {dMna Hōbom Znhr.

**gēnVZnMr i`nVr:**

1. gēnVZnMo {ZiH\$F©H\$nehmna {OëøVrb Cf \_nÜ` {H\$ nVandarB B`Îm 11 dr {dknZ emi b\$S\$rb {dÜmi` nZm bWJynSVrb.
2. gēnVZnMo {ZiH\$F©\_hrami`Vrb H\$nehmna {OëøVrb Cf -\_nÜ` {H\$ emi n\$Yrb n[apnWVrgma l r n[apnWVr AgUne`m BVa {RH\$UÀ`m emi Vrb {dÜmi` nZnhr bWJynSVrb.

**gēnVZnMo\_hîd:**

gh^mJr AÜ``ZnVrb darb VrZhr nÖVr {dÜmWuH\$Dr AÜ``Z nÖVr AnhV. `m nÖVtÀ`m dmnangnR\$ {d{dY JQ> V`ma Hôbo AnhV. JQm\_Ü`o AÜ``ZH\$Vr H\$V AgVnZm AÜ``ZnVv\_Ü`o {dMranM/r XolnU-KolnU H\$Uo g\_mnV YrQnUo\_V \_n\$Uo Xngè`nM\_o\_V Ebl\$U KÜo BVarA`m\_VnM, {dMranM/m AnKa H\$Uo MMm©H\$Uo nañnanA`m eH\$m d Jag\_O Xa H\$Uo ghAÜ``ZnVubom g\_OZ KÜo EH\$IV H\$m ©H\$Uo BÈ`nKr AZb\$ gm\_n(OH\$ H\$peè`nM {dH\$ng Hôbm OnVno

**gēnVZ nÖVr:**

gēnVZngnR\$ àm nUJ\$ gēnVZ nÖVrMm dma Hôbm AgZ `WnV© àm nUJ\$ A{^H\$ēnVrb (True Experimental Design) `m A{^H\$ēnMr {Zd> Hôbr Anho `nVrb Hôdi CÎmMnMUr g\_nZ JQ> A{^H\$ēn (Post-Test Only Equivalent Group) hm A{^H\$ēn dmnabm Anho

**Z\_ñm{ZdS>**

gēnVZngnR: H\$ēhmg ehanVrb H\$nb `Wrb XYgm a {dUmZH0VZ d H\$Z0>
\_hm(dÚnb` {-Dr `m\_hm(dÚnb` nMr ghVH\$ Z\_v{ZdS>nŌVrZo{ZdS>H0br.

gēnVZnMr gmYZo

gēnVZnV \_r(hVr gēbZngnR: gēnKZ MnMUrMm dma H0om Anho

**grf>` H\$` {díbfU:**

gēnVZnVZ ànV Pnbè`m \_r(hVrMo {díbfU d AWZdMIZ H\$E`ngnR: \_Ü`\_nZ,
à\_nU{dMbZ, Mann-Whitney Test `nM dma H0om Anho

**{ZiH\$F©**

1. B`Înn 11 dr {dknZ eml b\$S\$rb OrdennÌ {df`ngnR: nra\$mfah\$ AÜ``Z nŌVrnj m
 àíZ\_Ōfm nŌVr A{YH\$ n[aUm\_H\$naH\$ RaVo
2. B`Înn 11 dr {dknZ eml b\$S\$rb OrdennÌ {df`ngnR: nra\$mfah\$ AÜ``Z nŌVrnj m
 {^ÎnnÌH\$-ghb nŌVr A{YH\$ n[aUm\_H\$naH\$ RaVo
3. B`Înn 11 dr {dknZ eml b\$S\$rb OrdennÌ {df`ngnR: nra\$mfah\$ AÜ``Z nŌVrnj m
 {OJgm nŌVr A{YH\$ n[aUm\_H\$naH\$ RaVo
4. B`Înn 11 dr {dknZ eml b\$S\$rb OrdennÌ {df`ngnR: àíZ\_Ōfm nŌVrnj m
 {^ÎnnÌH\$-ghb nŌVr A{YH\$ n[aUm\_H\$naH\$ RaVo
5. B`Înn 11 dr {dknZ eml b\$S\$rb OrdennÌ {df`ngnR: {OJgm nŌVrnj m àíZ\_Ōfm
 nŌVr A{YH\$ n[aUm\_H\$naH\$ RaVo
6. B`Înn 11 dr {dknZ eml b\$S\$rb OrdennÌ {df`ngnR: {OJgm nŌVrnj m {^ÎnnÌH\$-
 ghb nŌVr A{YH\$ n[aUm\_H\$naH\$ RaVo

**{e\\$ner:**

**A) {ej H\$gnR: {e\\$nag:**

Cf \_nÜ` {H\$ nVandarb OrdennÌ {df`nÀ`m {ej H\$gnR AÜ` nnZm\_Ü` ogh^nr AÜ``Z
nŌVrVrb àíZ\_Ōfm nŌVr, {^ÎnnÌH\$-ghb nŌVr, {OJgm nŌVr `m nŌVtMm dma H\$andm

**~) àengZngnR: {e\\$ner:**

*grp\_80ar {VW nrb*

1. Cf \_nũ` {H\$ ñVandarb Aä`ngH\$ mVrb {d{dY KOH\$gnR\$ gh^mJr AU` `Z nÕVr am-{dE`ngnR\$ {ej H\$Zm àñgñhZ Úndo
2. gh^mJr AU` `Z nÕVrVrb àiZ\_Df m nÕVr, {^ÎnnÌH\$-ghb nÕVr Am(U {OJgnñ nÕVr `m{d{dY nÕVtZr nnR>Kf`ngnR\$ {ej H\$Zm à{ej U {XboOndo
3. gñmYZ Cf -\_nũ` {H\$ ñVandarb {dÚmí`ngnR\$ Hóbo Anho darb gñmZnMm dnna H\$EZ gh^mJr AU` `Z nÕVtMm dnnangnR\$ \_mJReP\$ nñVH\$m V` ma H\$Vm` B@.

### H\$ {ej H\$ à{ej U gñmZm(e\ \$ag:

1. ~r. ES> d E\_? ES> ñVandarb à{ej Umí`mZm gXa H\$m ZVr H\$er am-dm Mr `nMo à{ej U Úndo

### gX^©

1. H\$X\_, d. nm (2008), {dÚmWu H\$DrV AU` mnZ nÕVtMm {dÚmí`nÀ`m {dknZ {df`mVrb gOZerbVola hñJne`m n[aUm\_nMm Aä`ng. {ednOr {dÚmnrR> H\$ñehmñ
2. OJVm, h. Zm (2005), ej {UH\$ \_mZgennÌ, nWó: {dídng àH\$neZ
3. Xe\_ví , \_ . \_no (2012), B`Înm ghndrÀ`m {dknZ {df`mVrb dZñnVtMoAd`d aMZm `m KOH\$gnR\$ JO> AU` `Z nÕVtÀ`m n[aUm\_H\$H\$Vm Aä`ng. {ednOr {dÚmnrR> H\$ñehmñ
4. n\$ESV, ~. {d. (2003), {ej UmVrb gñmYZ, nWó: ZVZ àH\$neZ.
5. \_ví o am e\$ d C\_nR\$ {d. Vu (1987), ej {UH\$ gñmZnMr \_toVÍdo Zmññ : \_hñmíO>{dÚmnrR>JW{Z{Vr \_\$i .
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